



<http://researchspace.auckland.ac.nz>

ResearchSpace@Auckland

Copyright Statement

The digital copy of this thesis is protected by the Copyright Act 1994 (New Zealand).

This thesis may be consulted by you, provided you comply with the provisions of the Act and the following conditions of use:

- Any use you make of these documents or images must be for research or private study purposes only, and you may not make them available to any other person.
- Authors control the copyright of their thesis. You will recognise the author's right to be identified as the author of this thesis, and due acknowledgement will be made to the author where appropriate.
- You will obtain the author's permission before publishing any material from their thesis.

To request permissions please use the Feedback form on our webpage.

<http://researchspace.auckland.ac.nz/feedback>

General copyright and disclaimer

In addition to the above conditions, authors give their consent for the digital copy of their work to be used subject to the conditions specified on the [Library Thesis Consent Form](#) and [Deposit Licence](#).

Note : Masters Theses

The digital copy of a masters thesis is as submitted for examination and contains no corrections. The print copy, usually available in the University Library, may contain corrections made by hand, which have been requested by the supervisor.

Academic Literacy and Self-efficacy in
Adult Students Preparing
for Tertiary Study.

Ian R. Wilson

A thesis submitted in fulfilment of the requirements for the degree of

Doctor of Education

The University of Auckland.

2012

ABSTRACT

Levels of academic literacy and self-efficacy were investigated to find possible relationships to variations in demographic and experiential backgrounds, academic results, and acceptance into future courses. The 212 adults studied were from a diverse range of backgrounds and were enrolled in the largest bridging programme in New Zealand, preparing for tertiary study.

Quantitative data assessing reading, writing, and vocabulary skills were compared to quantitative and qualitative data on the self-efficacy beliefs of their academic literacy to participate in the current and future courses, and their readiness for future study. These were examined and triangulated with interview data, and compared to demographic data, academic results, and the outcome of applications to future academic courses.

The study measured academic literacy levels in relation to the Learning Progressions published by the Tertiary Education Commission in New Zealand (2008), and to Nation's (1983) Vocabulary Levels Test. Self-efficacy beliefs were reported by participants through questionnaire and interviews using a labelled Likert percentage scale outlined by Bandura (2006). The quantitative data were analysed by descriptive statistics, correlation, and analysis of variance.

It was found that participants with comparatively higher academic ability but lower self-efficacy received significantly lower end-of-semester grade score averages than their peers. Lower grade scores were also received when self-efficacy for academic study was substantially different from their actual academic literacy. Adults who had a first language other than English had significantly lower academic literacy measurements yet the highest self-efficacy.

Bandura's observation on the importance of self-efficacy beliefs to match academic literacy was supported by this study. A moderate correlation between academic literacy skills and academic results was established. The sources of self-efficacy—previous personal success, observation of significant others, verbal persuasion and encouragement, and an emotional/physiological response to situational pressures—proposed by Bandura (1977, 1986, 1994, 1997), and supported in the social cognitive literature, were established for the adults in this study. However, the self-efficacy measures used did not correlate significantly with academic results or acceptance outcomes. Future research possibilities are indicated.

ACKNOWLEDGEMENTS

SUPERVISOR – Dr Libby Limbrick, Principal Lecturer, School of Arts, Languages and Literacies, Faculty of Education, University of Auckland

SUPERVISOR – Associate Professor John Read, Department of Applied Language Studies and Linguistics. University of Auckland

DOCTOR of EDUCATION SUPERVISORS – Dr Vicki Carpenter, Principal Lecturer, School of Critical Studies in Education, and Professor Robin Small: School of Critical Studies in Education, Co-supervisors, Doctor of Education Programme, 2007-08, University of Auckland

THIRD PARTY EDITOR – Dr Paul Vincent, Auckland

Critical Reader: Marion Steward – Principal Lecturer, School of English, Faculty of Education and Social Sciences, [named] Institute of Technology

Sue Satchell – Head of School, School of English, Faculty of Education and Social Sciences, [named] Institute of Technology

Dr Helen Anderson – Academic Director: Research co-ordinator Adult Literacy and Numeracy Project, [named] Institute of Technology

Beverly Pointon – Senior Lecturer, Lecturer-in-charge Communication Studies Course 2009, School of Foundation Studies, [named] Institute of Technology

Kirk Sargeant – formerly Head of School, School of Foundation Studies, Faculty of Education and Social Sciences, [named] Institute of Technology

A special acknowledgement to

Semester 1, 2009 students of the School of Foundation Studies, Faculty of Education and Social Sciences, [named] Institute of Technology, for their cheerful and willing participation, who made the study in its present form possible.

Dedicated to

My mother, who never went to school,
My wife, Gill,
and sons Simon, Tim and Kristian,
and their families, present and future.

TABLE of CONTENTS

ABSTRACT	-----	ii
ACKNOWLEDGEMENTS	-----	iii
Chapter 1. INTRODUCTION	-----	1
1.1 Introduction	-----	1
1.2 Background	-----	1
1.3 The motivation for the study	-----	4
1.4 Context and limits of the study	-----	6
1.5 Implications of the study	-----	8
1.6 Aim of the study	-----	9
1.7 Organisation of the thesis	-----	9
Chapter 2. LITERATURE REVIEW	-----	11
2.1 Introduction	-----	11
2.2 Academic literacy	-----	11
2.2.1 Definition of academic literacy	-----	11
2.2.2 Academic literacy and reading	-----	13
2.2.3 Academic literacy and writing	-----	14
2.2.4 Academic literacy and vocabulary	-----	15
2.2.5 Education for academic literacy	-----	17
2.3 Language learning	-----	18
2.4 Self-efficacy	-----	22
2.4.1 Definition of self-efficacy	-----	22
2.4.2 Self-efficacy and academic learning	-----	23
2.4.3 Self-efficacy and the adult learner	-----	25
2.4.4 Self-efficacy and academic performance	-----	27
2.5 Research questions	-----	29
2.6 Conclusion	-----	30
Chapter 3. RESEARCH METHODS	-----	31
3.1 Introduction	-----	31
3.2 Research design	-----	31
3.3 Research context	-----	35
3.4 Participants	-----	35
3.4.1 Survey participants	-----	36
3.4.2 Interview participants	-----	36

3.5	Ethical considerations-----	36
3.5.1	Cultural diversity -----	38
3.6	Data gathering procedures -----	39
3.6.1	Demographic data -----	39
3.6.2	Academic literacy data -----	40
	A. Assessment of writing-----	40
	B. Assessment of reading-----	42
	C. Assessment of vocabulary -----	44
	D. Composite index of academic literacy (CIAL) -----	46
3.6.3	Self-efficacy data-----	47
	A. Questionnaire -----	47
	B. Interview-----	51
3.6.4	Academic outcome data -----	52
	A. Programme results-----	51
	B. Future course acceptance -----	52
3.6.5	Summary of data gathered -----	53
3.7	Data analysis -----	54
3.7.1	Demographic data -----	54
3.7.2	Academic literacy data -----	55
	A. Writing marking scheme -----	55
	B. Reading marking scheme -----	56
	C. Vocabulary marking scheme -----	56
	D. Composite index of academic literacy (CIAL) -----	56
3.7.3	Self-efficacy data -----	57
	A. Self-efficacy for current academic literacy skills (SECALS)-----	57
	B. Self-efficacy for future performance in an academic course (SEFPAC) -----	57
	C. Self-efficacy for readiness for future academic study (SERFAS)-----	57
	D. Composite index of self-efficacy (CISE) -----	57
3.7.4	Interview data-----	57
3.7.5	Academic outcome data -----	58
	A. Programme results-----	58
	B. Future course acceptance -----	58
3.8	Conclusion -----	59
Chapter 4. DEMOGRAPHIC DATA ANALYSIS -----		60
4.1	Introduction -----	60
4.2	Validity of participant volunteers-----	60
4.3	Gender -----	61
4.4	Age group -----	62
4.5	Ethnic group -----	64

4.6	First language	66
4.7	Previous education experience	67
4.8	Programme level	68
4.9	Future course	69
4.10	Summary	69
Chapter 5.	ACADEMIC LITERACY DATA ANALYSIS	70
5.1	Introduction	70
5.2	Writing	70
5.2.1	Writing assessment	70
A.	Writing assessment by demographic group	71
B.	Writing assessment by progressions	75
5.3	Reading	80
5.3.1	Reading assessment	80
A.	Reading assessment by demographic group	80
5.4	Vocabulary	83
5.4.1	Vocabulary assessment	84
A	Vocabulary assessment by demographic group	84
5.5	Comparisons between writing, reading and vocabulary	88
5.6	Construction of a composite index of academic literacy (CIAL)	90
5.7	Summary	95
Chapter 6.	SELF-EFFICACY OF ACADEMIC LITERACY DATA ANALYSIS	97
6.1.	Introduction	97
6.2.	Self-efficacy measurement tools	97
6.3.	Self-efficacy results	99
6.3.1	Self-efficacy results by demographic groups	104
6.4.	Self-efficacy for current academic literacy skills (SECALS)	106
6.4.1.	Self-efficacy for current academic literacy skills (SECALS) and academic literacy measurements	109
6.5.	Self-efficacy for future performance in an academic course (SEFPAC)	110
6.5.1.	Self-efficacy for future performance in an academic course (SEFPAC) and academic literacy measurements	110
6.6.	Self-efficacy for readiness for future academic study (SERFAS)	111
6.7.	Summary	113

Chapter 7. ACHIEVEMENT OUTCOME DATA ANALYSIS	114
7. 1 Introduction	114
7. 2 Programme grades	114
7. 3 Grade score average (GSA).....	115
7.3.1 Grade score averages by demographic group	116
7.3.2 Revised grade score average (RGSA)	118
7. 4 Programme results, academic literacy and self-efficacy.....	119
7. 5 Future courses acceptance.....	127
7. 6 Grade score averages and future courses acceptance.....	129
7.6.1 Level 4 Advanced Foundation programme participant outcomes.....	131
7.6.2 Level 3 Foundation programme participant outcomes.....	133
7.6.3 Level 2 Introduction to Foundation programme participant outcomes.....	135
7.6.4 Participants with unknown destinations at the end of the first semester	136
7.6.5 Outcomes of participants at the end of the second semester	137
7.6.6 Outcomes of participants at the end of subsequent semesters	139
7. 7 Summary	139
 Chapter 8. INTERVIEW DATA ANALYSIS: Reasons for studying, recognition of needs, self-efficacy for further study, and sources of self-efficacy	 141
8. 1 Introduction	141
8. 2 Interview questions and themes.....	142
8.2.1 Definition of success	143
8.2.2 Reasons for undertaking academic study	145
8.2.3 Influences on the decision to study.....	148
8.2.4 Expressed goals	149
8.2.5 The gains from the bridging programme.....	151
8.2.6 Self-efficacy and future course entry.....	154
8.2.7 Personal experience and gains in self-efficacy.....	155
A. Gains from the current bridging programme.....	155
B. Gains through previous contact with academic material.....	158
C. Gains from previous experiences at training courses	159
D. The onset of confidence	161
8.2.8 Observation of others, persuasion and self-efficacy	163
8.2.9 Learner satisfaction, personal attitude and self-efficacy	165
A. Physiological reaction as an indicator of personal attitudes	166
8. 3 Changes in self-efficacy	167
8. 4 Summary	169

Chapter 9. DISCUSSION	-----	171
9. 1 Introduction	-----	171
9. 2 The construction of a composite index of academic literacy (CIAL)	-----	171
9. 3 The construction of a composite index of self-efficacy (CISE)	-----	172
9. 4 Academic literacy, self-efficacy and academic results	-----	172
9. 5 Academic results by programme level	-----	174
9. 6 The relationship between academic literacy, self-efficacy and academic outcomes	----	175
9. 7 The extent that academic literacy, self-efficacy and results vary with background	-----	176
9. 8 Links between interviews and questionnaire data	-----	181
9. 9 Sources of self-efficacy	-----	181
9. 10 Summary	-----	183
 Chapter 10. CONCLUSIONS AND RECOMMENDATIONS	-----	184
10. 1 Aim	-----	184
10. 2 Conclusions	-----	184
10. 3 Strengths and limitations	-----	186
10. 4 Contribution to knowledge and implications for teaching and learning	-----	187
10. 5 Future directions	-----	189
 Appendix A Survey Questionnaire	-----	191
Appendix B Interview Question Schedule – First interview	-----	193
Appendix C Interview Question Schedule – Second interview	-----	194
References	-----	196

Chapter 1. INTRODUCTION

1.1 Introduction

Until the development of new opportunities for adults in the 1970s, education finished at the leaving of school or university and the transition to adulthood occurred on the taking up of employment. The only 'adults' involved in non-vocational or non-credit self-improvement education were teachers and administrators. In recent decades, lifelong learning and second-chance education have become catch cries for a new extension to and massification of education (Osborne, 2004).

This study examines the factors which affect adults' ability to enter and participate in this new extension and explores how such factors may vary according to individual background. The hope is that the research study will add to the understanding of adults aiming to enter further education.

1.2 Background

Over the 135 years since the ground-breaking 1877 Education Act made primary education free, secular and compulsory in New Zealand, the system has grown through a series of developments into a three-tier structure of early-childhood, primary and secondary schooling, and tertiary sectors. Schooling, attending primary and secondary schools or receiving home schooling, is compulsory from the age of 6 to 16 years (Ministry of Education, 2010). Recently, the provision of 20 funded hours per week of early childhood education has been added. University education is open to all after 20 years of age, although the previous subsidy on tuition fees was replaced by government-funded loans to students for fees and living costs in the mid-1980s.

Vocational training was often through the apprenticeship schemes, and some professional training was undertaken at non-university colleges of education, nursing schools and the like. Tertiary degrees were obtained only through universities and many teachers, nurses and other trained professionals did not have or need degrees. This has changed dramatically since the mid-1980s through an increased need for credentials at the degree level in teaching and nursing, and in block-course certificate and diploma trade and professional courses provided at technical institutes.

While primary and secondary schooling remain the key elements in the education system, over the past 25 years, the tertiary sector has taken on increasing significance in the drive for education for a knowledge-based society. There has been an increase in the need for tertiary credentials, and technical institutes now offer formal qualifications at the diploma and bachelor degree level beyond the certificate programmes that they had traditionally provided. At the same time the dichotomy between academic education and vocational training has become blurred in the post-compulsory stage of formal education, where the technological advances, specifically in the information and communication field, begun in the late twentieth century, have increasingly required sophisticated technical skills. Those secondary school leavers who do not have an academic focus, do not obtain the highest secondary credentials, or do not have university as a goal, are expected to obtain these skills in a post-secondary training environment.

In the past 20 years many countries have adopted policies designed to increase participation in post-secondary, post-compulsory education. The aim has been to increase opportunities for adults in education to enable greater participation in a knowledge-based society. The tertiary sector, which includes post-secondary education, has become an area of specific governmental interest. The issue of education and training for fulfilling human potential and enhancing the opportunities for employment is being considered more widely. In New Zealand one of the stated aims of the then National Government's Ministry of Education was "equality of educational opportunity for all to reach their potential and take their full place in society" (Ministry of Education, 1993, p. 34). Research into the opportunities that the different groups in society have to enter tertiary education was still being called for in 2006 (New Zealand Council for Educational Research, 2006, p. 1).

To enhance post-secondary, post-compulsory education, the Tertiary Education Advisory Commission was set up in 2000. The Commission regards the foundation skills that potential participants have gained through compulsory education or through life experience as considerations for entry to tertiary education. One of the six stated aims of the Commission is to "raise foundation skills so that all people can participate in our knowledge society" (Tertiary Education Commission, 2008a, p. 5). In the past, the predominant measure of educational achievement for most New Zealanders, and especially for Māori and for Pasifika peoples, was employment (Helu-Thaman, 1995). Initiatives to raise foundation skills and extend opportunities for further education were established to promote achievement, enhance capacity and develop potential for all members of New Zealand society.

The push for greater democratisation and involvement of citizens in post-secondary education began in Europe and North America in the 1960s (Osborne, 2004, p. 401) and governments of many countries have been interested in improving access to formal education especially for adults of social and cultural groups who are under-represented there. This has been true in New Zealand where an Adult Literacy Strategy (Ministry of Education, 2001), the Tertiary Education Strategy (Ministry of Education, 2002), and the Adult English for Speakers of Other Languages Strategy (Ministry of Education, 2003) have been developed to increase the participation of adults in the tertiary sector. As a result of these strategies there have been dramatic and significant increases in the opportunities available. This can be seen in the number of adults who were domestic students enrolled in formal tertiary courses rising from 245,442 in 1994 to the all-decade high of 392,905 in 2005 (Wensvoort, 2011).

However, access to and success in government-supported formal education has not been equal for all members of society. The number and scope of courses available were often restricted to applicants who had the appropriate secondary qualifications.

In response to a need to open pathways to further education, tertiary institutions in New Zealand established bridging programmes, along the lines of those in Britain, the United States, Canada and Australia, for adult students planning to enrol in future academic and vocational courses. The earliest form of these in New Zealand was a bridging programme established in 1985 which provided adults with the opportunity to obtain secondary qualifications such as School Certificate and University Entrance without needing to return to school (James, 1991). Most universities now have preparation courses bridging to tertiary study, for example, the New Start programme at the University of Auckland

and through the Pathways College at the University of Waikato to name just two. These courses developed into generalist courses providing a substantial amount of the pre-course training designed to equip students with the academic skills required in tertiary study. There were anecdotal accounts of success for these students, but little formal study of either the courses or their results. Research will help address the gap in the understanding of the importance of these types of courses.

In an effort to formalise the learning for adults at the foundation level, the New Zealand Tertiary Education Commission (TEC) established a nationwide framework for assessing and planning the steps towards increased literacy in reading, writing, speaking and listening. The government website (Tertiary Education Commission, 2010) notes that “Adult learners who acquire all the knowledge and skills described in the relevant [Foundation Learning] progressions will have a sound foundation to build on if they decide to study for achievement standards or Unit Standards at level 3, 4 or 5 of the NQF [National Qualifications Framework].”

Reading and writing, together with aural and oral language skills, and numeracy are generally seen as the foundation competencies (New Zealand Council for Educational Research, 2006). This has been endorsed by TEC (Tertiary Education Commission, 2008a). These competencies are termed foundation skills because they are seen as the essential underpinnings, the base requirements, for constructing further learning, capacity building and personal, vocational and professional development. The 2005 New Zealand Ministry of Education’s *Learning for Living* strategy group defined ‘foundation education’ as: “the application of a complex web of reading, writing, speaking, listening, critical thinking, problem solving, numeracy skills and communication technology so that people can achieve their own goals in meaningful social, cultural, vocational and/or learning contexts” (Ministry of Education, 2005, p. 1). This is evidence of a clear determination to capture the synergy between literacy and foundation learning.

In the Learning Progressions (LPs) issued by TEC (Tertiary Education Commission, 2008a), the four strands of reading, writing, speaking, and listening are each made up of components called progressions. The first three of the five progressions of the reading strand combine to produce strategies which promote the remaining two. The first three are: decoding—making sense of the written code for the sounds that the letters represent, and the use of punctuation; vocabulary—knowing the meaning of words; and language and text features—recognising elements such as paragraphing, and cohesive links in sentences and paragraphs. The remaining two are: comprehension—understanding the message that the words are carrying; and reading critically—being aware that there may be bias, connotation and implications expressed below the surface meaning of the words in the text.

Writing in the LPs is made up of six progressions. These are purpose and audience—understanding how certain writing matches a particular purpose and reader; spelling—the process on consistently encoding accurately, words known phonologically; vocabulary—the selection of appropriate words and phrases to portray precise and particular meaning and tone; language and text features—understanding sentence construction, sequencing, paragraphing and cohesion. These four components are linked to the writing skills of the remaining two progressions of planning and composing; and revising and editing.

Vocabulary is mentioned in both the reading and writing strands. Vocabulary, and in particular academic vocabulary, has been noted as a potential barrier even to relatively competent readers of everyday language. Corson (1995) states that “there are clear contemporary factors operating in the language and among its users, that combine to maintain and reinforce the lexical barrier and its effects”. This is recognised in the LPs which state that for reading, a learner needs to know that most words are made up of root words, and prefixes and suffixes which can be used to gain an understanding of the word (Tertiary Education Commission, 2008a). They explain that these skills enable a reader to recognise the morphology of words immediately and that these equate with the sound, meaning and associations of the word stored in the mental lexicon. An additional publication on reading, points out that: “Many readers have difficulty progressing past this stage to automatic recognition of multi-syllabic words, typically of Greek or Latin origin, because they need to apply more complex strategies to decode these words” (Tertiary Education Commission, 2008c, p. 23). The obtaining of a literacy capability which enables members of society to move beyond this lexical barrier and become fully functional must be the goal.

Adult learners often have had a wide variety of social and cultural experiences and they bring these as knowledge to the learning environment. It is important that this personal expertise is acknowledged. At the same time, these individuals have often realised that they need support in developing the literacy skills to interact with the academic discourse community. The learning institution needs to provide support which helps students to “develop the language needed to construct central genres and to reflect on how language is used to accomplish this” (Hyland, 2002). Davidson-Toumu’a (2005) found that tertiary institutions often assumed that students had learned academic reading skills during Years 12 and 13 of secondary school and therefore the teaching of these were not a focus of learning at the tertiary level.

1.3 The motivation for the study

I became interested in adults attempting to enter tertiary academic courses as a lecturer teaching and organising classes which prepared speakers of English as an additional language to gain credentials to enter English-medium university and polytechnic degree and diploma courses. Further discussion with colleagues in bridging programmes revealed that native-speakers of English who had not experienced an introduction to an academic learning environment, often begun at the higher levels of secondary school, were also experiencing difficulty in gaining entry to academic courses. I realised that any investigation into adults aspiring to enter the tertiary academic environment and who may struggle to achieve it, needed to be expanded to all potential students. I agreed with Kuehn’s (1996, p. 18) assertion that academic language is a form of additional language for all, and not just second-language learners.

Many reasons were given for the lack of success in gaining entry to academic courses, and I always felt uncomfortable with links to ethnicity, gender or economic situation within which a deficit model was implicit. A study by Benseman and Sutton (2008) gave me a greater awareness of the possible reasons for the difficulties that a number of adults in the New Zealand context have found entering tertiary courses. The authors identified the main groups as school leavers under the age of 20 without sufficient secondary qualifications; migrants from non-English-speaking backgrounds; adults from

households where the principal language was not English; older adults returning to education after a time away; and those who have had a disrupted educational experience in the past (Benseman & Sutton, 2008).

Entry to tertiary education from the post-secondary sector is an under-researched area. A commonly-held notion is that the groups of individuals mentioned simply do not have the academic literacy skills required to participate and succeed in tertiary academic courses. The part that academic literacy plays in gaining entry to a tertiary course therefore requires investigation.

Prospective tertiary students can be deterred from engaging in an academic environment through feelings that they would not be able to cope with the academic work, particularly if they have been told so, or that tertiary study is expensive, or that academic learning is of little value in the working world. The role of self-efficacy beliefs of students for gaining entry to a tertiary course equally needs attention, therefore. This is true especially for studies on adults, as most self-efficacy research focuses on adolescents in secondary school, or on school leavers entering the workforce. These two variables, academic literacy and self-efficacy and their relationship to successful academic outcomes and entry to tertiary courses need to be researched.

The term 'academic literacy' relates to the ability to function operationally in an academic environment and stems from the work of the 'New Literacies' movement which began in London in the 1980s and now has enveloped the social, economic and political world (Lankshear & Knobel, 2006). Reading and writing appropriate language in general and using appropriate vocabulary in particular, establish this ability. While this is evident for learners who have English as an additional language, it is also true for native speakers of English. The differences between the basic interpersonal communication skill required for everyday use has been shown to consist of quite different vocabulary, form and function from the structures and words needed in the cognitive/ academic language proficiency used in the more formal, less context-embedded environment of academic discourse (Cummins, 1979, 2000a). The differences in the time taken for the onset of fluency between academic language and basic communicative language is well recognised, (Baker, 2001; Brown, 2000; Hakuta & Beatty, 2000; Halliday & Martin, 1981), especially in English (Corson, 1985, 1995).

While cognitive ability has been recognised as a factor in academic success, proponents of the social cognitive theory have investigated self-efficacy as a further influence on self-regulation, self-evaluation and self-awareness (Bandura, 1977, 1986, 1997, 2006; Pajares & Urdan, 2006) and consequent action in academic participation, continued persistence and retention (Multon, Brown & Lent, 1991; Schunk & Meece, 2006; Schunk & Millar, 2002; Zimmerman & Cleary, 2006). The literature on academic literacy and self-efficacy and the influence of both on academic achievement is discussed in the next chapter.

From the considerable literature on motivation in learning, that relating to adults entering tertiary courses is of interest. Pont (2004, p.35) found that those with previous success in academic endeavours are the most motivated to undertake more. This was confirmed in the New Zealand setting as well (Benseman, Findsen & Scott, 1996). Throughout the past decade the role of motivation

in undertaking higher education has been increasingly researched in Europe where funding has been available (Peres, 2009).

The reasons cited anecdotally, by both students and staff, for applicants failing to gain entry to the tertiary course of their choice, and for academic failure once in a course, are often lack of academic literacy skills and low levels of confidence. There has been no research on the relationship between academic literacy and self-efficacy and academic success leading to adult entry into tertiary education from post-secondary bridging programmes. The purpose of this study therefore is to better understand the role of academic literacy and self-efficacy in adults, so that their learning and experience in bridging programmes can be the best possible preparation for future academic courses.

1.4 Context and limits of the study

Higher education, further education, developmental education, enabling education, access education, bridging programmes, foundation programmes and preparatory courses are some of names given to the type of education being investigated here. To clarify the issue, the United Nations Educational, Scientific and Cultural Organisation (UNESCO) developed an international definition for education levels. The terms 'post-secondary' and 'tertiary' are used for the educational sectors immediately beyond secondary school. The difference between the two is that 'tertiary' courses lead to a first degree or diploma programme whereas 'post-secondary' courses are either vocational courses, or developmental preparatory courses for the more academic, tertiary programmes (United Nations Educational, Scientific and Cultural Organization, 2006). Tertiary education in New Zealand includes both types of post-school education and training. It is made up of eight universities, 21 institutes of technology and polytechnics, three Māori indigenous wānanga, 46 industry training organisations and approximately 915 private training establishments and English language schools registered by the New Zealand Qualifications Authority (Ministry of Education, 2010a). Although in New Zealand 'tertiary' refers to both types (Ministry of Education, 2010b), I have adopted the UNESCO definition for clarity.

Post-secondary courses preparing students for tertiary study began in New Zealand in 1985 (James, 1991). These were added to the trade courses run at technical institutes. University-based pre-degree courses followed in the early 1990s. Private training establishments also developed foundation skills programmes at this time. Although bridging programmes can take a variety of forms, the definition used in this study is that established in a survey of bridging programmes in New Zealand by Benseman and Russ (2003, p. 45) and cover "programmes aimed at giving learners the requisite academic skills that will enable them to enrol in tertiary programmes to which they would not otherwise have been able to gain entry". They explain that because of the wide range they found that were being called foundation and bridging programmes, they needed to restrict their definition to those programmes offered by universities or polytechnic institutes which were at least 10 weeks long, and were preparing students for courses that were academic in character.

The exact number of bridging-programme students in New Zealand is unknown. Tertiary education statistics gave a participation rate in foundation courses of 64,714 domestic students in 2005. These were in certificate courses at the first three of ten levels on the NQF (New Zealand Qualifications

Authority, 2011); the numbers participating specifically in bridging programmes were not recorded. The foundation-course figure dropped to 54,591 in 2010 (Ministry of Education, 2011). The participation rate at 3.9% of those aged 15 years and over in New Zealand at that time was significantly below the 5.0% recorded in 2003 (Ministry of Education, 2011), the earliest date for which these statistics were provided. This is despite the fact that the government provided funding and loans assistance in accordance with policy based on one of the six stated aims of the TEC: to “raise foundation skills so that all people can participate in our knowledge society” (Ministry of Education, 2006, p. 5).

It is the adults who enrol in the Level 1 to 3 foundation skills courses who are taking steps to improve their capacity to participate in this knowledge society. Some of these foundation courses in bridging programmes specifically prepare adults for tertiary academic study. Pre-degree courses at NQF Level 4 also perform a similar bridging function. Adults in Levels 2, 3 and 4 who were specifically aiming to prepare themselves for entry to a tertiary academic course by attending bridging programmes offered at one specific institution were surveyed in the present study. Although the amount of attention focused on adult education currently in New Zealand is unprecedented (Benseman & Sutton, 2008), the size and composition of the group of adults who do not gain entry to tertiary courses is unable to be measured. Some who have an aspiration to enter an academic course have not approached a tertiary institution. Others have not disclosed this aspiration to family members or friends. Many of this group who have made a formal enquiry but who were not accepted will still be in their present workplaces or at home.

This study focused on those adults who wished to enrol in a future academic course but who were either declined entry because of lack of qualifications and were advised to enrol in a bridging programme, or who made the decision themselves to enrol in such a course before applying for the future academic course of their choice. These students had not yet gained entry to a tertiary level course. Although first-year tertiary courses can prove problematic for some students and are worthy of investigation, this study focuses on students in bridging programmes before entry to university because the additional time and financial commitment needed for pre-degree and bridging courses is even greater than for those entering a tertiary course directly.

Over half of all bridging-programme students in New Zealand as defined by Benseman and Russ (2003, p. 60) were enrolled in two bridging programmes. This study was situated in an institute of technology with a long-established bridging programme which is the largest in the country. The institute caters for some 24,000 students where a wide range of vocational and professional qualifications are offered ([named] Institute of Technology, 2010). It caters for students from a wide range of demographic groups as it is situated in the most ethnically diverse community in the country.

Access to a culture where academic literacy predominates has always been expensive, but it has been highly sought-after because it also has power. Literacy, whether in its most basic definition, the ability to read and write, or in its broader definition, the ability to carry out tasks in a literate society, is the domain of those who can afford it, either individually or in most countries through a government education system. Governments undertake this expensive task in an effort to raise the capacity of its people. Even with government loans available, all tertiary study is a substantial financial commitment.

Bridging programmes cost time and money in addition to what is required for the tertiary course. Full-time study may also necessitate resignation from paid employment, and even part-time study restricts the hours available for paid work. These adults and their families, either as dependants or supporters, will pay a significant cost for the students to take this opportunity.

Over many years, tertiary education has become an instrument of social stratification. This is particularly true with the English language where the everyday spoken English has an Anglo-Saxon base, while the academic language has been influenced by words derived from Greek or Latin, or perhaps from those languages via Renaissance French. The phenomenon of social stratification continues today in non-English speaking countries where the desire to gain the ability to communicate in English has increased because of the social and economic opportunities this ability presents. So much so it has now become the target of government funding (Jin & Cortazzi, 2002). Language is power. The ability to communicate, firstly in basic interpersonal communication language and then with cognitive/academic language proficiency in English can open the reader/ writer/ speaker/ listener to the Internet, and to more academic study, and in general terms to occupational and social advancement.

Bridging programmes therefore need to improve students' chances to enter the academic courses of their choice and to prepare them for these so they can be successful in them. Students' perceptions have already influenced their decision to enter a bridging programme and self-efficacy is likely to affect the persistence and the effort they put in to achieve at a higher level (Schunk & Meece, 2006; Zimmerman & Cleary, 2006). If either academic literacy or self-efficacy, or both, affects academic results and acceptance into planned academic courses, then, the time, money and effort expended in a bridging programme will be justified.

The students' grades, their perception of the value of the bridging programme, and their self-efficacy for their ability to cope in their future course may be critical to their participation and retention in the bridging programme and in their ultimate success in reaching their goal of acceptance into the future course. This research enabled links between academic literacy and self-efficacy to be evaluated against academic outcomes, and allowed the participants' voices to be heard through the conducting of interviews. Valeri-Gold (1996) describes the self-reporting of beliefs learners hold as an authentic method for understanding their views.

1.5 Implications of the study

It is hoped that the study will be of particular interest to programme developers and bridging-programme lecturers who work to prepare their students for entry into future academic courses. Researchers in the field of foundation studies, bridging education and adult learning, and those responsible for training the increasing number of teaching practitioners involved in the foundation skills /bridging programme arena, may also find the study of interest. The goal is to assist students in their preparation for future academic study by identifying the place of academic literacy and self-efficacy in the academic outcomes of successful students.

The organisation and delivery of bridging programmes may benefit through the analytical measurement of academic literacy combined with the perceptions and opinions of students identifying

the factors which helped promote these skills. If this understanding by administrators, lecturers and students leads to an awareness of the aspects which promote success for students, then the extra time taken for them to enter the future course of their choice, the additional monetary cost for the students, and the cost of government funding may be seen as beneficial.

1.6 Aim of the study

The aim of this study is to explore the levels of academic literacy and self-efficacy and the extent to which these vary according to the background of the adult students enrolled in a bridging programme in preparation for future academic study. A further objective is to explore the extent to which academic literacy and self-efficacy levels influence the academic outcomes of these adults. To identify these links, a mixed methods research design was used in which quantitative measurements of academic literacy, academic outcomes, and the survey on self-efficacy can be augmented by the qualitative nature and in-depth interactions available through semi-structured interviews.

A description of the demographic composition and experiences of the participants was necessary to explore possible factors which may affect academic literacy and self-efficacy levels. It was also necessary in the New Zealand context as although there have been extensive surveys undertaken of the type and amount of provision for adults overseas, particularly in the United Kingdom (Osborne, 2003; Osborne & Sankey, 2009), there has been only a modest amount in New Zealand into adults who attend programmes to improve their chances of entering tertiary study. Measurements of these adults' academic literacy and perceptions of their own self-efficacy were required to provide base data against which to compare the academic outcomes. Outcome data of overall grade scores obtained on the bridging programme and participants' success in gaining entry into the academic course of their choice were used as measures of academic outcome. Demographic factors, academic literacy and self-efficacy measures were then examined to ascertain whether they were possible influences for students' academic literacy level, self-efficacy level, academic grade, and their being accepted or declined entry into later tertiary courses.

1.7 Organisation of the thesis

This thesis contains 10 chapters. The introductory chapter has outlined the background to the research and the reasons for it. The context has been given, limits of the study set and its possible implications outlined. The chapter culminates with the statement of the research aim and concludes with an outline of the organisation of the thesis.

Chapter 2 contains the development of the constructs of academic literacy and of self-efficacy and reviews the literature related to these factors as possible indicators or reasons for future success for adults gaining entry to a future academic course. Chapter 3 outlines the research design and methodology in detail, focusing on the design of the methods and instruments used in the research study and the rationale that underpins them. The reasons for examining academic literacy and self-efficacy as factors in gaining acceptance into a future academic course are outlined. The participants and their context are described together with the ethical considerations and the procedures used to show how these were managed. Detailed descriptions of the data collection instruments and processes involved in their use follow, together with a justification for the use of mixed methods

research and a discussion of its role in bringing together quantitative and qualitative methods. The chapter concludes with an outline of the methods used for data analysis.

Chapters 4 to 7 each describe different aspects of the collected data and together build an understanding of the relationships between the data sets. Chapter 4 gives a comprehensive descriptive analysis of the demographic and experiential data; Chapter 5 the measurements of academic literacy; Chapter 6 the measurement details of the survey on self-efficacy; and Chapter 7, the academic results and acceptance outcome data, and the links between academic literacy and self-efficacy and these data.

Chapter 8 deals with the data gained from the interviews of 30 participants and adds a different dimension to the data examined thus far.

Chapter 9 provides a discussion of the findings from Chapters 4 to 8, and Chapter 10, the final chapter, focuses on the conclusions drawn, the strengths and limitations of the research, its implications, and provides suggestions for further research.

Chapter 2. LITERATURE REVIEW

2.1 Introduction

This chapter outlines the existing relevant research on academic literacy and self-efficacy. Where possible this was related to adults in post-secondary and tertiary education. The existing literature was examined to identify relevant questions upon which to base the research study.

The chapter opens with a brief discussion of why academic literacy is a factor in a post-secondary programme designed to assist adults enter a tertiary course. A definition of academic literacy is given together with a discussion of how it came to mean what it does today. Reading, writing and vocabulary are examined as separate, complementary components of literacy. The role of bilingual research in our understanding of academic literacy is examined, before the chapter looks at how this relates to adults in second-chance education.

The second major factor in this research, self-efficacy beliefs, is considered in the third section of the chapter. The definition of self-efficacy used in this study is given, then a review of the literature justifying the inclusion of self-efficacy as a possible influence on success and acceptance into an academic course follows. The literature on the links between academic literacy, self-efficacy and achievement is then summarised and the research questions of the study outlined.

2.2 Academic literacy

Not having a required academic credential is one of the main reasons prospective students hoping to enter a particular academic tertiary course are not accepted. Suitable credentials are most commonly obtained by attendance and successful assessment at the upper level of secondary school. In some cases attendance and successful assessment through a bridging programme at a post-secondary institution will provide a substitute credential to enable entry. Because it is generally accepted that the secondary qualification required for tertiary course entry is an indication of a certain level of academic literacy gained from the teaching, learning and academic experiences at upper secondary school, entry to a tertiary academic course is granted. The tightening of literacy requirements continues in many universities for those without New Zealand secondary qualifications.

It follows that a person without an adequate secondary qualification is unlikely to provide evidence of a level of academic literacy high enough to enter an academic course. Academic literacy, as demonstrated by the required secondary qualification or other previously acquired and sanctioned tertiary qualification is seen, by course administrators at least, as a key factor enabling entry to a tertiary course. Without these credentials one avenue open to applicants to show they have adequate academic literacy is the gaining of a suitable grade pass in a bridging programme. Consequently the assessment of academic literacy is an essential part of a course focusing on results of a bridging programme that enable successful students to entry a tertiary academic course.

2.2.1 Definition of academic literacy

The traditional view of literacy, which defined a person as literate or non-literate based on the ability to read and write, is no longer relevant, on two counts. Firstly, literacy is now seen as a continuum rather

than a dichotomy. In the past, each person reached an often unspecified defining level, moving the person from a state of illiteracy to being literate. Secondly, there is now much more involved in literacy than the two fundamental skills of reading and writing.

In its broadest sense, literacy has been defined as the continuum of proficiency of knowledge and skills required to operate effectively in a range of particular environments in society and the economy (Organization for Economic Co-operation and Development, 2005, p. 15). This definition is so broad that literacy has become a synonym for capability to be used for “any knowledge and learning deemed educationally valuable” (Lankshear & Knobel, 2006, p. 20). It is now used in a variety of collocations. Newman (2002, p. 32) explains: “Terms like ‘cultural literacy’, ‘computer literacy’ and ‘geographic literacy’ which do not make any reference to written language, have become current in the media and popular culture”. These are examples taken from the ‘New Literacies’ movement which has become a central part of the ideas informing government policy in many developed societies. When language is considered, the ‘New Literacies’ approach identifies it in a social-cultural context where literacy is observed through the interaction with others (Gee, n.d., 2000). Whereas, in the past, literacy had been seen as an individual, personal, almost private, skill, it is now seen to achieve its meaning in interactions with others. Spoken language is now recognised as a separate, different but definite form of literacy. Although certain standard written forms, and to a lesser extent, some standard spoken forms, have retained a privileged position, the wide variety of written and spoken forms of literacy events are now all considered part of the broader concept. All these types of interactions can be understood as literacies, alongside reading, writing, speaking and listening.

The new examination of literacy has grown out of the research traditions of the past. Society seems now to be concerned with the individual in relation to others, rather than with the individual per se. Gee (2000) describes the background to this new interest:

Over the last several decades, in and across a wide variety of disciplines, there has been a massive ‘social turn’ away from the focus on individual behaviour (e.g. the behaviourism of the first half of the twentieth century) and the individual mind (e.g. the cognitivism of the middle part of the century), towards a focus on social and cultural interaction.

(Gee, 2000, p. 180)

This social constructivist approach, focusing on social and cultural interaction, has certainly influenced much of the research in the present century. It is from this ‘social turn’ that the literacy profiles of groups of people are now being considered, not from a deficit model, but from a difference of literacies model (Tertiary Education Commission, 2008b, p. 4).

The definition of literacy given in the background material for the Learning Progressions (LPs) (Tertiary Education Commission, 2008f) developed by the Tertiary Education Commission (TEC) in New Zealand, and originating from the Organisation for Economic Co-operation and Development (OECD) does not specifically mention language or communication when it describes competence as: “the knowledge, the cognitive and practical skills and the attitudes needed to meet demands or carry out tasks successfully ... in particular contexts” (2008, p. 4).

The OECD Adult Literacy and Life Skills Survey (2005, p. 16), from which TEC has taken their definition, included prose literacy and document literacy as components alongside numeracy and problem solving as its four skill domains. Locating and using information in various formats and gaining information from texts seem desirable components to have in a working definition of literacy. So too, do aspects of language and communication. Newman's definition of literacy as the "knowledge of a communicative system and its elements necessary to work with that system in the domain specified" (2002, p. 33) implies that literacy in all its forms is required to operate as an autonomous adult in modern society. This definition can be used for academic literacy by specifying the domain as academic.

By adding the adjective 'academic' to the definition of competence given by TEC, the definition of academic literacy can be expressed as: "the knowledge, the cognitive and practical skills and the attitudes needed to meet demands and carry out tasks successfully ... in particular [academic] contexts" (Tertiary Education Commission, 2008f). Academic literacy is different because it relates to the ability not just to operate in a particular environment but also to comprehend and use language in addition to, and different from, that required for everyday use.

Johns (1997) describes literacy as the skills needed to understand, discuss, organise and produce both written and oral texts. By extending these skills to encompass the experiences of all adult members of society, this can be seen to be a much more useful definition. By adding in influences from past experiences and the cognitive understandings gained from these, to these social interactions, Johns (1997, p. 3) suggests: "then the term must be pluralized ('literacies'), for there are many literacies, especially in academic settings, acquired in different ways and for different purposes." Multi-literacies refer to language being communicated through different media.

One further point of difference from the study of literacy in the past is that the focus on literacy is now on knowledge and elements of the communicative system that are required for adults as well as children. In many parts of the world including both developing and developed societies, there is a growing realisation that sections of the adult population still require support in gaining the requisite knowledge, skills and attitudes to operate in their society's communicative system (Ministry of Education, 2007).

2.2.2 Academic literacy and reading

As noted, literacy in its traditional sense has been defined as the ability to read and write (Franken & McComish, 2003, p. 24). For many years literacy was discussed in terms of its opposite—illiteracy—and not having the ability to read and write was the focus of study (Hamilton, Barton & Ivanic, 1994). Although we know that reading and writing can begin in the home, more often they are the domain of formal education. For more than a century, access to education has been seen as the right of all members of society: a right enshrined 60 years ago in Article 26 of the Universal Declaration of Human Rights adopted by resolution 217 A (III) of the United Nations on December 10, 1948 (United Nations, 2007).

As students progress through the levels of formal education the amount of reading required increases. Reading becomes the main medium of receiving content and ideas, and at tertiary level, a crucial

component in instruction, revision and assessment (Carson, 2001, p. 80). As the amount of reading increases, the speed required to take in the content and ideas increases. The opportunity for rereading, processing, reforming the writing text and checking unknown vocabulary diminishes (Tertiary Education Commission, 2008e). One difference with academic reading, compared to the reading of a narrative, for example, is that the reader is often unaware of any lack of comprehension of the text until required to demonstrate an understanding of the content of the text, often some time after the reading event.

2.2.3 Academic literacy and writing

Corpus studies show that there are differences between oral and written language (Biber, Johansson, Leech, Conrad, & Finegan, 1999). The formal written expression of ideas has the opportunity to be extensively and intensively edited. This allows the writer more thought and greater opportunity to use support material to select a more precise word or phrase to express a particular meaning. Clause complexity and sentence length are likely to be greater, and there tends to be no false starts, and less redundancy, reiteration and paraphrase than spontaneous speech. With greater vocabulary choice, words extend in syllable length. Ure (1971) showed statistically that when compared with spoken texts, particularly when feedback is present in conversations or when speaking is unrehearsed, lexical density is much higher in written texts.

Analyses of written and oral texts show:

When taken together, all these features of writing allow a very exact presentation of information content in relatively few words. When longer words appear, they tend to have more specific meanings, allowing a unique expression of thought within some semantic field or meaning system. Corson, 1997, p. 30

From a social constructivist point of view, literacy is firmly recognised as a socio-cultural practice. This is obvious in the everyday spoken communications between people, but it is also an intrinsic part of the writing style that students, teachers and researchers in academic contexts use to display shared knowledge. The social constructivist approach focuses on written texts as they are used to create an academic context seen as the academic discipline. The writing of texts by academics in the form of articles and books, and by students in the form of essays and assignments is undertaken in order to become accepted in that academic discipline. Often oral summaries of these written texts in the form of lectures are constructed to pass on the central ideas of the discipline to undergraduate students. Hyland (2002, p. 209) states: "Writing is central to this perspective". Although Grabe and Kaplan (1996, pp. 15-18) point out that oral and written language have very close links and that modern sociolinguistic research is melding the two forms together more closely, writing has become the most potent force in academic discourse. Hyland (2000) states that "academic disciplines are defined and distinguished from each other by their texts" (p. 132). Listening, and to some extent speaking, are a significant part, but reading and writing are key skills in academic literacy.

2.2.4 Academic literacy and vocabulary

A further key component of academic literacy is vocabulary. Although it was a study of children, the principal finding of Saville-Troike's work was that "vocabulary knowledge in English is the most important aspect of oral English proficiency for academic achievement" (1984, p. 216). Corson (1995) describes words as the tool by which students' thoughts can be seen and cognition observed. The observation and measurement of the words a writer uses "in a piece of writing is one of the most obvious and educationally relevant things to measure objectively" (Hudson, 2009, p. 354). A large part of readability scales such as the Flesch-Kincaid Reading Ease Index used in this study, are based on the measurement of vocabulary (Utilities for Online Operating System, n.d.).

Comprehension of language relies largely on lexical knowledge. If a lexical item is unknown there are often clues contained in the word itself to suggest a possible connection with the known meaning of other words in the sentence. As Corson (1997) explains though, in English a high proportion of words used in an academic context are of Graeco-Latinate origin. In most cases there is another English word which is more commonly used in everyday communicative situations. When a not-commonly-used academic word appears in the text, the word itself and its relationship to the text act as a barrier to the reader's understanding. Corson's 'lexical bar' (1997) appears because the root parts, affixes and sound of the academic language of Graeco-Latinate origin required for successful tertiary level academic participation are not generally connected to the everyday language that people use for basic interpersonal communication. In academic disciplines, these words are used frequently in scientific, medical, legal, philosophical, educational and specialist content areas for the precise meanings they contain, but these can often be confusing for the uninitiated. Corson's (1997) second point is that these words can be used by people to maintain social distance and power.

It is the nature of this lexicon which Corson identifies as the barrier for many to formal secondary educational success and subsequent tertiary participation. The morphological complexity and phonological distance of Graeco-Latinate words when compared with their everyday equivalents establishes the barrier. Socio-cultural influences and the class-based prestige of these more formal words reinforce it. This is especially true when personal identity and peer or family pressures discourage experimentation with the more formal academic specialist model. Davidson-Toumu'a (2005, p. 20) found a similar difficulty for second-language learners in New Zealand stating: "the most basic of challenges to the ESL reader is without doubt the issue of academic vocabulary."

It has been confirmed by the LPs that vocabulary is an essential part of the reading and writing process. Nation (2001) suggests that the average native speaker entering tertiary education will have a vocabulary based on about 20,000 word families. Most will learn this academic vocabulary by participation in the senior years of secondary school. If an adult aspires to enter a tertiary academic course without this native-speaker level of vocabulary, it is "way beyond what most learners of English as another language can realistically hope to achieve" (Nation, 2001, p. 9). A study by Joan Carson identifies "both general academic and discipline specific vocabulary comprehension and use" (2001, p. 79) as part of the requirements for students to participate in tertiary courses.

The number of words needed for successful reading comprehension and competent writing was examined by Goulden, Nation and Read (1990). They concluded that the 114,000 base words contained in *Webster's Third New International Dictionary* (Goulden et al., 1990) constituted too great a burden on even the most determined vocabulary learner. This many words is "well beyond the goals of most first and second language learners" (Nation, 2001, p. 6). Coxhead and Nation (2001, p. 252) go on to explain that approximately 2000 of the most frequently occurring words in English make up "around 80% of the running words in academic text." As for specialist academic words, in a survey of 3,500,000 tokens covering 28 academic disciplines, Coxhead (1998) identified 570 words and their associated word families contained in her Academic Word List (AWL), which on average supply a further 8.5% to 10% of the words commonly used in academic texts. The receptive knowledge of these 2000 most frequently-used words with the additional AWL 570 words, which on average provide 9 out of 10 running words in an academic text, is vital for comprehension. Although there has been some criticism of the scope of the academic subjects which were used to establish the AWL (Hyland & Tse, 2007) and that Coxhead did not take specific vocabulary and the collocations needed from some particular academic disciplines, the widely used academic words in the AWL are still considered useful in the preparatory and initial stages of tertiary academic study (Eldridge, 2008).

Nation (2001, p. 27) produced a table outlining the productive and receptive knowledge required to fully know a word. Of course, even partial knowledge will often be of some use in both reading and writing, but many words—whether they are the less frequent, more precise and specialised in meaning, form and use, or are the higher frequency words with different meanings from their everyday use—have the potential to be used incorrectly or to be misunderstood.

If this is not difficult enough, when these words have low frequency and are morphologically and semantically distant, as with words with a Graeco-Latinate origin, then Corson (1997, p. 181) contends that even less help to activate their meaning is available from the words themselves. He goes on to suggest that as these unknown words begin to cluster in a text, a compounding barrier to understanding the meaning of the text as a whole occurs. When adults have not completed the upper levels of secondary school there is an increased chance that academic language may not have been encountered. If the home language is not English, communication in English is likely to be used at a basic interactive level. In addition, the language environment at home and in formal social interactions, such as in church, may have a high cultural preference for spoken text. In these situations a lexical barrier may form. Familiarity with academic language is more likely to be gained from formal educational contexts, when this type of language is fostered by parents at home, and where written text has a high cultural capital. No-one has academic language as a first language (Kuehn, 1996, p. 18).

A goal of education is the acquisition of knowledge, and success in the education system requires students to display learned knowledge. A wide vocabulary will enable students to express that knowledge with greater flexibility and in more intricate detail. It is certainly true that "the communicative advantages of specialist Graeco-Latinate words are undeniable" (Corson, 1997, p. 89). As the Graeco-Latinate vocabulary is a part of the cultural capital of one group, members of this group have more

access to it. Groups for which this vocabulary is uncommon will find comprehension of it, and expression in it, more difficult.

A second point from a sociological perspective is that the language elements that make up the cultural capital of individuals differ between groups. It has been recognised for some time that each of these groups has worth in its own right. The cultural capital of each group has its own intrinsic value; however, over time, some groups have been able to establish their cultural capital in a privileged position. This has led to differentiation by occupation and income level in some societies. This differentiation of specific vocabulary and text type has occurred in formal education as well, and it is here that most members of society encounter it. Corson (1997, p. 95) explains that: “modern schools and universities are an upper middle class creation, arranged in line with upper middle class habitus and in response to an academic culture of literacy that is itself a class-related product.” Corson uses Bourdieu’s (1977) term ‘habitus’ to describe that which “names a system of durable dispositions at the core of a person’s behaviour” (1977, p. 18).

It is not that there is a deficiency in the cultural capital of any group in society; it is just that what is valued is different. The skills, attributes and language of each group may be different because they are valued differently. The values associated with each group are not necessarily the same. The point though is that the people who exhibit what is valued by the accepted institutions of society often receive rewards from that society and with it better financial and/or social return. Although different groups value different types of language in different ways, it is the knowledge of grammatical structures and specialist Graeco-Latinate vocabulary of academic discourse which is often rewarded with academic success. It has been required for success at secondary schools and has been part of the gate-keeping testing system at the entry to tertiary education. “The display of a high status vocabulary confers socio-cultural prestige on those who know the appropriate place and the way in which to use it. Its possession favours some, while non-possession discriminates against the many” (Corson, 1997, p. 36).

2.2.5 Education for academic literacy

The increasing importance placed on literacy in the educational and political spheres (Lankshear & Knobel, 2006, pp 13-15) has helped to establishing language as one of the three strands of the foundation learning skills. Language use, alongside numeracy and critical thinking, is recognised as crucial in the ability to operate as an autonomous adult in modern society. The understanding around the learning of English as an additional Language continues to grow. Part of this growth in understanding emphasises that while individuals can be literate in their own cultural and linguistic environment, it will take time for them to become communicatively competent in another language in a new language environment. In addition, although becoming an effective user of basic interpersonal communicative skills is a tremendous achievement, that might not be enough when the learner is operating in a cognitively challenging or academic context.

We have reached the point where we know that it is not enough for our students to become fluent speakers of English; we know that it is not enough for them to be literate in

English; and we also know that higher education places demands on their literacy that are quite different from those placed by most workaday contexts.

(Blanton, 1998, p. 219)

Grabe and Kaplan also emphasise the diverse nature of these adult speakers of additional languages (1996, p. 23), and it is commented on by the Tertiary Education Commission (2006, p. 13). It is appropriate therefore to investigate the literacy of second language learners when they have aspirations to enter the academic tertiary arena.

Teaching and assessment for school-aged children and the development of literacy skills in children who speak English both as a first and as an additional language have been widely studied in previous research. There are significant gaps in the work done in understanding language learning in the tertiary sector, however (New Zealand Council for Educational Research, 2006, p. 1).

Carson, Chase and Gibson (1993) examined the role of reading, writing and verbal demands on students in an undergraduate curriculum and attempted to construct a general description of academic demands. While they reported that the lecturers involved in the study found the discussions around the components of academic literacy useful, the researchers were not able to have the lecturers reach a consensus. Unfortunately, they found “the necessary specificity of the academic literacy descriptions generated by the project limited their generalisability for any purpose beyond the institutions in which they were observed” (Carson et al., 1993. p. 20). The specificity they mention was of use to individual lecturers concerned with their own particular programmes but it was reported that the lecturers felt a continued search for specific elements in an academic literacy programme took valuable energy and time away from the teaching of students. For this reason, an operational definition of academic literacy has been adopted in this study, rather than one with specific pre-set elements which lecturers may feel would take too much time to construct.

A New Zealand study (Loewen & Ellis, 2004) specifically examined the vocabulary knowledge of first- and second-year university students who had English as an additional language. They found that the university Grade Point Averages of students were significantly higher for those who had the largest vocabulary, when compared with students from similar backgrounds who had not scored as highly on the vocabulary test.

2.3 Language learning

Working on the principle that academic literacy involves learning another distinct form of the English language, with its particular vocabulary, grammar and socio-cultural context, I examined the previous literature on second-language learning for insights into teaching academic literacy and learning academic language. There are a number of cognitive theories that attempt to explain how the brain deals with the learning of an additional language. Although these have developed from observing second-language learners, they appear to have relevance for first language speakers entering an academic environment with its particular type of language demands as well.

Over several decades, Cummins (1984a, 1984b, 2000a) has been investigating and developing these cognitive theories, especially with reference to children who speak two or more languages, and how these theories relate to the classroom. Although earlier ideas of bilingualism saw the learning of languages additional to one's first as developing separate cognitive entities, Cummins hypothesised that language learning stems from one central intellectual source. The pattern of how the first language operates establishes, according to Cummins, a common underlying proficiency in the brain, and this can be easily drawn on in the learning and use of additional languages. This can be seen when considering other cognitive learning processes such as mathematical or managerial skills which are easily transferable from one language to another. Cummins (2000a) developed his earlier work into a theory that recognised that the greater the language skills of a child in both languages, the more likely the transfer of skills from one language to another would be positively reinforcing. This can be seen in adults as well as children. That transfer may well be possible when learning a new and different type of literacy.

Cummins proposed that there are two thresholds of language acquisition. These are discussed in detail below. Cummins (1979) found that while bi-lingual school children took two years to appear fluent in the everyday second language, the more complex academic curriculum knowledge required between five and seven years of language learning and experience to master, and sometimes even longer. Hakuta and Beatty (2000) observed that oral proficiency takes between three and five years to achieve and between four and seven years can be needed for academic English proficiency. These differences seem to exist for second-language adults as well as bi-lingual children. I maintain that while this is true for adults who have a first language other than English, similarities exist for first-language adults entering a tertiary academic environment as well. The morphological and linguistic distance between everyday words and their academic equivalent can be as great as that between different languages. The use of grammatical structures such as the passive voice which alters the placement of subject and object in the sentence, for example, is more common in academic writing. These can be confusing until explained and understood, even to native speakers of English until they have become familiar with them.

Cummins (1984a, 1984b, 2000a) labelled the difference between the different types of language, 'basic interpersonal communicative skills' (BICS) and 'cognitive/academic language proficiency' (CALP). The BICS are the everyday language skills people need to communicate with others. Oller (1979) showed that this reached a plateau around six years of age. They consist of a range of vocabulary for everyday items which can be pronounced, with sufficient grammar to get the point across, coupled with the ability to comprehend received messages, and apply the required conversational skills of turn-taking, turn-holding, and negotiating topic shifts. CALP is the language ability and cognitive processes which exist beyond those required for interpersonal communication. This is the language of the formal educational and academic environment. The ability to utilise this cognitive and academic language proficiency effectively can be considered academic literacy.

Everyday interpersonal communication contains clues and support mechanisms which promote understanding. These are physical manifestations such as facial expressions and non-verbal signals and gestures which provide a context for the interpersonal communication. Cummins (1984a), Brown

(2000), and Baker (2001) all describe these as 'context-embedded'. In contrast, academic vocabulary is described as being registered in the cognitive domain and generally occurring in a 'context-reduced' environment, where the language is "disembedded from a meaningful supportive context" (Cummins, 1984a, p. 133).

Baker (2001, p.170) illustrates Cummins' (1984a) model with an iceberg analogy in which the everyday basic interpersonal communicative skills are visible 'above the surface'. They are audible, observable and measurable. They are exhibited in the language components of the pronunciation, the vocabulary and grammar of the spoken language, and in the cognitive processes of knowledge acquisition, comprehension, and application of skills. However, further inside the mind, below the surface, the cognitive processes involving analysing, synthesising and evaluating exist. These processes often require the different language elements of semantic and functional meaning of a cognitive/academic language proficiency. The CALP is made up of language elements in the form of vocabulary and grammatical structures which are different from those needed in everyday BICS.

There has been criticism from some commentators who have outlined limitations in this model, however. The first of these is that a BICS/CALP dichotomy would lead to the adoption of a 'critical stages' approach which, if accepted, would require the construction of criteria for levelling learners (Wiley, 1996). While there are broad differences between the two, the transition between them is more of a continuum than an all-or-none step. Baker (2001, p. 169) also cautions against the "construction of artificial 'critical stages' or levels, when transition is gradual and smooth."

However, while there are often many observable steps, there is very little in language learning that can be said to be smooth. Baker's (2001) criticism that a sliding-scale continuum might model language development more accurately than a two-box compartmentalisation is valid. Cummins (2000b) points out that he never intended the thresholds he proposed to be static dichotomous compartments.

Martin-Jones and Romaine (1986) doubted if the differences between BICS and CALP can be tested, which would constitute a problem for research. This criticism was raised 25 years ago and much has been written, particularly by Brown, Baker and Cummins himself, to show how the concepts of BICS and CALP have helped in the understanding of literacy learning for second-language learners. Wiley (1996) also points out a potential problem if the terms of BICS and CALP become imbued with value judgements that suggest that interpersonal communicative skills are somehow less important than academic proficiency. Academic and cognitive proficiency already tend to promote greater success in formal education contexts of the traditional classroom or in the assessment task. Interpersonal communication skills in basic everyday language are a worthwhile and acceptable goal in their own right. As Baker explains:

School-based academic/cognitive language does not represent universal higher-order cognitive skills nor all forms of literacy practice. Different sociocultural contexts have different expectations and perceived patterns of appropriateness in language and thinking such that a school is only one specific context for 'higher order' language production.

(Baker, 2001, p. 171)

It is not that one is more important than the other; it is just that to succeed in the academic world students are aspiring to enter, proficiency in academic language is required. In fields such as nursing and medicine, law and counselling, and in many other contexts, complex, precise, academic concepts need to be learned in the respective academic language, but their communication in plain everyday language is a key function in professional roles in the everyday world. Even MacSwan and Rolstad's critique of BICS/CALP that it promotes an inherent superiority for CALP, "applaud the original intent of the BICS/CALP distinction" (2003, p. 338).

This is equally true for tertiary-level contexts and especially so for sections of society which have a strong oral component to the cultural tradition, where higher order language production might take the form of public debates, sermons and religious presentations, and speech making.

Criticism by Edelsky et al. (1983) suggested that the BICS/CALP model, while having an intuitive simplicity, failed to recognise the complexities of second language acquisition. The BICS/CALP model, however, provides a short-hand for describing what is observable both in children in the classroom and in second-language-learning adults in wider society. Even though limitations to Cummins' model have been raised, the emphasising that there is a second type of language that learners have to contend with beyond the fluency of BICS if they wish to operate in an academic environment is important. The continuum between the two forms of language, that Baker and Cummins himself have suggested as a better model, than a hard and fast dichotomy, is not in doubt.

One very useful facet of the model is the understanding that different types of language proficiency and communicative skills generally take different lengths of time to master. This is expressed in Figure 2.1.

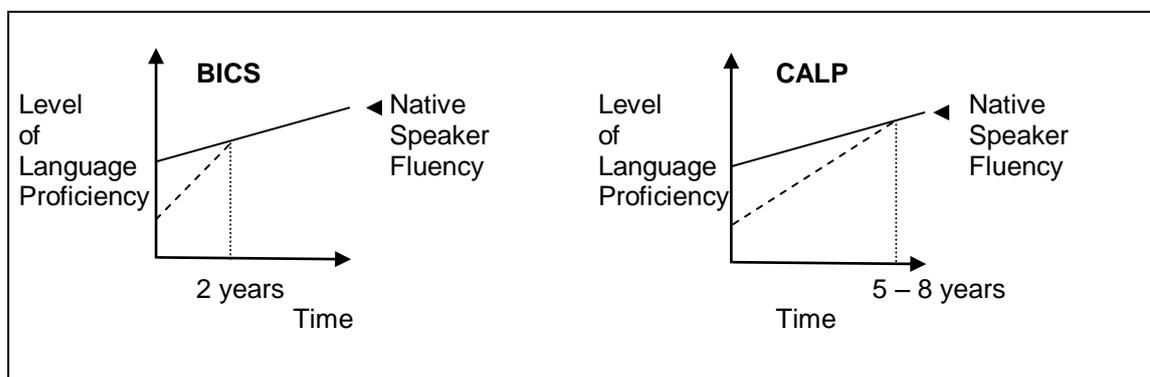


FIGURE 2.1 THE ONSET OF BICS AND CALP (Baker, 2001, p. 174)

BICS can be observed in second-language learners between two-and-a-half to four times sooner than CALP. This is generally true for children and adults who do not have a tertiary background in their own language. The onset of CALP may occur sooner where it is already well-developed in adults in their first language. Similarly, adults with a first language from a Romance origin may often exhibit recognition of much of the academic vocabulary which is derived from Latin, and the specialised scientific and medical terminology, which is often in Latin.

The point is that the language required for academic achievement is different from that needed to function in everyday and work situations. This is true for speakers of additional languages and speakers of English as a first language as well. Every-one has to learn academic language as an additional language and it is always something that has to be learned. For most people BICS are gained informally, whereas CALP is far more usually acquired in settings requiring formal learning. Lexical density increases with formality. When people gain competence in the use of academic language, it will be an additional language which will take longer to absorb than everyday language.

Academic texts, whether spoken or written, are academic because of the subject, tone, vocabulary, grammatical choices, format, organisation, and grammatical voice. From this it is clear that the issue is not just about the mechanical skills of learning to read and write, it is also about the ability to engage with and comprehend written passages and then produce appropriate and meaningful text, both oral and written, of one's own. A particular academic culture of specific task types, each having their own specific vocabulary and phraseology, and the literacy needed to engage with them, has built up in Western society over several centuries. In an academic context, the display of meaning of the specialist knowledge is what is required for success (Corson, 1997, p. 14).

2.4 Self-efficacy

There has been a relatively recent promotion of the concept of life-long learning. Once it was thought that the cognitive development of adults reached a plateau soon after early adulthood and if there was any change after that, it was one of decline (Tertiary Education Commission, 2008c, p. 13). However recent studies suggest that cognitive development continues into and through adulthood (Pogson & Tennant, 1999). As with children, the more adults learn, the more likely their confidence in themselves and their ability increases, and therefore the more likely they are to accept new challenges and more complex tasks. It is this confidence that signals the possible role of self-efficacy alongside academic literacy as a topic worthy of examination in the preparation and acceptance of adults into tertiary academic programmes.

2.4.1 Definition of self-efficacy

Self-efficacy beliefs are the personally held judgements that a person makes of his or her own ability to successfully achieve a particular goal. Bandura defines perceived self-efficacy as "people's beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives. Self-efficacy beliefs determine how people feel, think, motivate themselves and behave" (1994, p. 71). Self-efficacy beliefs are individual, specific and current. They are individual in that they do not rely on comparison with others. They are specific in that they relate to a particular task or event which is yet to occur, at some time in the future. They are current in that they are a self-evaluation of the person's ability or chance of success in achieving a specified task by the individual at the time of the particular event being imagined (Zimmerman & Cleary, 2006, p. 47).

Self-efficacy can therefore be seen to be a fluid concept. Self-efficacy for a task can be held over a long period of time, yet can just as easily change overnight with the determination that one is going to achieve, or the realisation that one is not going to achieve, a particular goal. Self-efficacy beliefs may change as a result of outside events, and from the direct or indirect comments of others. They are

often affective and may be entirely influenced by one's mood and feelings of self-worth. They will change, either positively or negatively, as people become more involved with a particular undertaking. In some situations strongly-held self-efficacy beliefs can persist in the face of contradictory evidence (Bandura, 1986, p. 401). Self-efficacy requires personal appraisal, self-judgement and self-realisation. They are more useful when they accurately reflect actual ability.

In fields of personal endeavour such as embarking on a new bridging programme which will lead to an extended programme of academic study, belief in one's ability to achieve the goal is critical. By the nature of the undertaking, either because it is so different from what has been a way of life for so long; or because it follows immediately after lack of success or completion at secondary school; or is the first venture outside the family environment in a new culture and country, personal feelings of self-efficacy will play a significant role for each student. A key question raised in this study is whether self-efficacy beliefs bear any relationship to success in bridging programmes and to individuals' acceptance in their planned academic course.

Individuals have beliefs about their own self-efficacy in relation to significant undertakings in their lives. These self-efficacy beliefs will determine which of the opportunities of life an individual is presented with will be taken up and which will be passed by. This decision is based on the individual's own appraisal of his or her capability to attain the goal presented by the opportunity. Positive self-efficacy will result in the individual participating more readily, working harder and persisting longer when difficulties arise. (Schunk & Meece, 2006, p. 73; Tertiary Education Commission, 2008c, p. 21; Zimmerman & Cleary, 2006, p. 51).

2.4.2 Self-efficacy and academic learning

Social cognitive theory holds firmly to the belief that people are able to influence their actions and interactions with and their reactions to the world around them (Bandura, 1977, 1986, 1994, 1997). It is "what people think, believe, and feel [which] affects how they behave" Bandura, 1986, p. 25). More recently Bandura (2006) has explained how key psychological actions – motivation, well-being, sense of accomplishment – stem from self-efficacy:

Unless people believe they can produce desired effects by their actions, they have little incentive to act or to persevere in the face of difficulties. Whatever other factors serve as guides and motivators, they are rooted in the core belief that one has the power to effect changes by one's actions. (Bandura, 2006, p. 3)

This belief in the ability to change the situation one finds oneself in is a fundamental attribute of the human psyche. Intentionality, forethought, self-regulation and self-awareness form the four core features of this human agency (Bandura, 1986). Although some studies in social cognitive theory (Zimmerman, 1990; Zimmerman & Cleary, 2006) have promoted self-regulation as a factor in the development of self-efficacy for adolescents, Bandura postulates self-efficacy as the determiner of self-regulation, self-evaluation, self-awareness and consequent action (2006, p. 3). This study is concerned with only part of the element of self-awareness, and has been limited to an investigation of how it manifests itself in self-efficacy, and how this relates to academic achievement and academic

literacy in adults. Self-regulation becomes a more important issue once literacy and self-efficacy are established.

Bandura (2006, p. 10) lists three key components of formal education: the equipping of students with the combination of specific subject knowledge, world knowledge and language competence to master the course; the building up of their self-efficacy beliefs; and the encouraging of self-regulatory capabilities to educate themselves throughout their lifetime. This identifies the joint importance of the components of academic literacy and self-efficacy. Other proponents of the importance of self-efficacy recognise that: "Although student motivation is an important issue ... It is widely accepted that students' academic success is influenced primarily by their cognitive abilities" (Zimmerman & Cleary (2006, p. 52). Bandura and Zimmerman and Cleary all take the view that alongside cognitive ability, a personal self-efficacy belief which promotes participation, effort and persistence is required for the individual to succeed.

In a study of perceptions of skills needed for academic study of New Zealand bridging programme students (Wilson, 2008) just under half of the adults surveyed identified the first of Bandura's (2006) aims—the specific academic knowledge and skills necessary for future study. The same study also highlighted his second component—a strong belief by students in their readiness to enter academic courses. Academic literacy and self-efficacy appear to be two crucial aspects for entry to and success in tertiary academic courses. The interplay between them appears to affect academic achievement.

The social cognitive theory put forward by Bandura gives four sources of self-efficacy as personal achievement, vicarious observation, persuasion, and physiological experience (1986, pp. 399-401). It is widely agreed that one's own personal prior success at a particular task is the most significant contributor to positive self-efficacy. For second-chance learners, previous experience of academic study may not have been successful. Vicarious observation is the noticing of what happens to other people especially those similar to oneself when they tackle an impending task. It is also possible that friends, associates and family members—the usual subjects of vicarious observation—may not have been particularly successful either. This will tend to lower self-efficacy (Bandura, 1994, p. 73). If friends and family have little experience of academic study they may not be in a position to persuade the second-chance learner to undertake further study. If they do attempt persuasion, it may be less effective than if it were from a person with successful experience in a tertiary environment. If a person has been unsuccessful in previous educational situations their physiological reaction may be negative. Any sources of positive self-efficacy may not be immediately obvious (Staples, Hlland, & Higgins, 1998).

In addition, social cognitive theory distinguishes three modes of agency in self-efficacy—individual, proximal and collective (Bandura, 1997). Collective efficacy is when a group believes it is able to work co-operatively to achieve a specific task. A sports team is a commonly used example of this. In an educational context, Bandura (2006) details the collective belief of an institution that it has the facilities, environment and staff with a desire to make a difference for their students. In some situations an individual exhibits proximal efficacy by being confident that she or he can manipulate the situation to the extent that another person will complete the individual's goal for her or him. Again in the educational context, Bandura (2006) gives the example of the proximal beliefs of teachers in the

institution that they are able to motivate and promote learning in their students. For most requirements in an academic course however, individuals need to rely on their own capabilities. A requisite for success in academic tertiary courses is the students' self-efficacy beliefs so that they can regulate their learning and master the academic subjects they are enrolled in (Bandura, 2006). People can be aware of this before they enrol. If the academic environment and success in it have not been a personal experience, then perceived personal self-efficacy of these capabilities may not exist. This could be critical in entry to the academic environment and achievement in it.

Although the accuracy of such beliefs is not important in the study of self-efficacy itself, links between the components of actual academic literacy and perceived self-efficacy beliefs are significant for achievement and progress and need to be identified and researched. In the field of educational psychology the connection between academic achievement and the forming of self-regulation has been investigated by Zimmerman (1990). He found that self-efficacy increased when students' learning became self-regulated. This led to greater motivation and consequently higher academic achievement in children. Further research on the relationship between academic achievement and self-efficacy was undertaken by Zimmerman, Bandura and Martinez-Pons (1992). This was a study of 13-14 year olds and included the children's parents' estimation of their children's final grades, identifying a close link between the correlations of the self-efficacy of the children and of their parents, and the children's academic achievement. The researchers conceded that "further research is needed to determine how parents socially influence their children's goal setting" (Zimmerman et al., 1992, p. 673). These studies were based on ideas expounded in the previous decade by Schunk (1989) who suggested a future self-efficacy research agenda to identify, among other things, the variables which relate to self-efficacy and to promote the development of instruments to measure them.

One element of self-efficacy is the idea of future perceived self which is related to increased persistence to achieve a goal when confronted with difficulties. Multon, Brown and Lent (1991) investigated the links between future perceived self and academic performance by examining 38 student samples from 36 studies in a meta-analysis. Through statistical analyses of other researchers' samples they established that self-efficacy beliefs have a positive, statistically significant relationship with academic performance. The authors found that the effectiveness of the self-efficacy measures depended on how they were measured and that the effect size co-efficients increased when the measures were domain-specific. Three drawbacks of this meta-analysis for relevance to the present study were: that most of the studies were on primary school children, with only 11 researching college students; the researchers were only able to measure academic performance when the studies had used standardised achievement tests; and that the meta-analysis examined only studies conducted and published between 1981 and 1987.

2.4.3 Self-efficacy and the adult learner

A large amount of self-efficacy research has been conducted on adolescents. When such research does focus on post-secondary adults it has been either in the role self-efficacy plays in occupational choice (Bandura, 2006), or motivation (Bandura, 1997), or self-regulation (Schunk & Millar, 2002) in the workplace. Schunk continued his earlier (Schunk 1989) call for research linking the examination of

processes involved in the formation and influence of self-efficacy with academic outcomes, calling for further self-efficacy research relevant to education (Schunk, 2008).

Research has continued on self-efficacy and issues in education (Pajares & Urdan, 2006; Urdan & Pajares, 2001, 2004), but again much of the literature available relates to adolescents: Schunk and Millar (2002) for example; and to self-efficacy in the movement of school leavers to work, for example Perry, DeWine, Duffy and Vance (2007). The latter study evaluated the impact of a school-to-work programme designed for non-college-bound school leavers and their self-efficacy for skills in mathematics, writing, English language and science.

The last decade has seen an increased amount of research into student learning in higher education. Three studies that have particular relevance to the present study are briefly outlined.

A study of 205 students in an American post-graduate business programme looked for links between self-efficacy, self-esteem and academic performance (Lane, Lane, & Kyprianou, 2004). The findings lend support to the effectiveness of self-efficacy measures in academic settings, although these were post-graduate students and their performance were measured against the Grade Point Averages of subjects studied as undergraduates.

A second study of particular relevance investigated the relative contribution of self-efficacy in predicting academic performance in 553 university students in Spain (Fenollar, Roman, & Cuestas, 2007). Their findings emphasised how the use of academic competencies, particularly deep cognitive processing, was enhanced by positive self-efficacy. They endorse Schunk's (1991) observation that to succeed in the demanding tertiary environment, students need to "develop strong beliefs concerning their capability to perform given academic tasks at designated levels" (Fenollar et al., 2007, p. 885).

Of even greater relevance is an Australian study by Zeegers (2004), who undertook an analysis of 194 first-year and 118 third-year university students to find factors which could predict academic performance. He included previous academic performance and self-efficacy along with language skills, attitudes to learning, metacognitive skills and others in his analysis. He found that previous academic performance was the single most important factor in predicting future academic performance. English language skills and the students' attitude to learning had some predictive value, but although self-efficacy showed strong correlations with other factors, it did not have a direct effect on academic performance.

While these findings are relevant to the present study, a limitation of all three studies is that the participants were already undertaking or had completed tertiary academic study.

Looking more deeply into self-efficacy, Bandura's (1997) model of the three modes of agency—individual, proximal and collective—was examined in a longitudinal study of 412 Italian students at six different ages between 12 and 22 years of age which examined perceived self-efficacy for self-regulated learning as a necessary tool in life-long learning (Caprara, et al., 2008). The self-efficacy of the participants was found to decline over time. The researchers concluded that the increasing complexities and demands of each higher level of education eroded levels of self-efficacy. They also noted that the self-efficacy for males declined more rapidly than for females. Possible reasons

suggested were the more attractive competing options available to males in their late teenage years and the fact that in many cultures females have more social constraints placed on them from home.

Zimmerman and Cleary (2006) examined the connection between self-efficacy and the actual skill of adolescents in an academic achievement. They saw motivation empowered by self-efficacy as an important issue, yet recognised that academic skill was a requisite factor in achievement. They argue that although it is widely accepted that academic success is primarily influenced by cognitive ability (2006, p. 52), there is only a moderate correlation between them. This moderate correlation prompted them to look closely at self-efficacy as a possible determiner in academic achievement and encouraged me to include an examination of the effect of self-efficacy on academic outcomes in this study.

Mone, Baker and Jefferies (1995) had established that self-efficacy reports made by students predicting their future grade score results were a valid predictor of future examination performance. A more recent study, by Gore (2006) found that while self-efficacy reports are predictive of future academic outcomes, these are dependent on the type of measurement used and when the measurements are taken. He found that the closer self-efficacy was measured to the future event, the more accurately the outcome was predicted.

As adults entertain the possibility of returning to post-compulsory tertiary education to obtain an academic qualification, their own belief in their ability to reach that goal seems crucial. Positive self-efficacy may have been a significant determiner in their decision to take on the burden of academic fees, and if necessary the resignation from paid employment, to return to full-time study, and the impending workload of an unfamiliar academic environment. Sticht (2001) commented that an adults' self-efficacy belief that they had adequate skills to participate in a course, would influence their decision to enrol in that course, and that this enrolment would enable them to develop more skills which would lead to greater self-efficacy. It was for this reason that many adult enrolments in educational opportunities in the past were made by already successful adults (Benseman, 1996).

2.4.4 Self-efficacy and academic performance

Research in the North American context in the 1990s investigated issues relating to literacy and tertiary students' learning and to self-efficacy and students' learning. The latter were mostly at the secondary level.

Although there can be no proven causal connection, Collins (1982), in mathematics, and Bouffard-Bouchard (1990), in a problem-solving task with children working with novels, showed that self-efficacy was a better predictor of future action than skill alone. Others have made it clear that self-efficacy needs to be added to academic literacy skills to get a fuller picture. Schunk and Meece have been quite clear that "no amount of self-efficacy will produce a competent performance if requisite knowledge and skills are lacking" (2006, p. 73). It is generally accepted that academic skills establish a major part of academic achievement and that self-efficacy adds to that already established (Pajares, 1997; Zimmerman & Bandura, 1994). In an American study of first-year university students, Hoover (2000) found that 43% of writing scores could be attributed to secondary school Grade Point Average

scores, while only 2% of the variance came from self-efficacy. It is for this reason that more research into the relationship between academic literacy and perceived self-efficacy is needed.

Accepting the importance of academic literacy skills, there has been research into the role of the teacher/instructor in raising the self-efficacy in adolescents in the learning environment. One study with adults by Staples, Hulland and Higgins (1998) discussed the value of meta-cognitive strategies in building self-efficacy in an online virtual work environment. The facilitator of the online learning community encouraged the participants to think about how they were actually learning and the different behaviours they were adopting. The study found this was a positive influence on learning especially in an environment which was new or unfamiliar. Blakey and Spence (1990, pp.1-2) listed strategies such as identifying what is known and what is wanting to be learned; talking about these and writing them in a reflective journal; working with students to make their own plan and evaluating their success on reaching their goal. The lecturers' role was to set up and facilitate the thinking opportunities and to supply effective feedback to students as the learning plan was implemented. The authors reported that these strategies increased the self-efficacy of the students.

Camillo and Pool (1999) used several strategies in a writing-development class in an intervention involving 20 inner-city, Black and Hispanic pre-technical college students in a remedial programme in the United States. They found that the students had unfounded high self-efficacy for their own writing even though they were in the programme because they had been denied entry to their planned course because of their low writing ability. The instructors used conventional full-class lessons on writing instruction in the mornings but added small-group tutoring and individual sessions with the teachers where the students graphed their self-efficacy for the writing tasks from class, and developed personalised study plans and weekly writing goals. A crucial feature of the intervention was the personal feedback students received on their writing tasks face-to-face from the teachers. The writing of the students involved in the study improved as their self-efficacy for it began to match their actual ability. By the end of the development programme they outperformed other students in a parallel non-intervention class. The accurate matching of self-efficacy to ability seems to be an important facet of self-efficacy beliefs.

For some students, problems with understanding academic content have been identified with the complexity of the language. In a study of Pasifika university students in Wellington, New Zealand, Davidson-Toumu'a (2005) reported the difficulty students had with the length and obscurity of subject-specific and academic vocabulary. Often, however, any problems with understanding were attributed by the students themselves to the complexity of the content and the ideas, rather than to the complexity of the language. In the United States, Valeri-Gold (1996) looked at learners' perceptions of academic reading and writing and found that intending students thought that the difficulties they were experiencing with reading and writing came from the content of the particular course and its texts, rather than from generic academic literacy skills. Students, particularly who have been educated in an English-speaking environment, are more likely to believe any problems they have relate to the differences in and novelty of the content rather than the actual complexity and particular usage of the language itself. Student confidence with handling the content of academic texts might be improved if educators point out the importance of actually learning vocabulary and assist them in adopting

strategies to deal with academic and specialist vocabulary in particular. A study by Jones (2008) of American first-year university students found that in writing, self-efficacy influenced performance. Within his sample of students with low writing ability in a writing development class, it was the weakest students who were most affected by their own low self-efficacy beliefs.

Kuehn (1996) investigated the language-related barriers to successful postsecondary education in Hispanic students in the US context and concluded that “the most important barrier to comprehension of lectures and text for underprepared students is the lack of academic vocabulary knowledge” (p. 9). Her combining of measurements of academic literacy skills, particularly the assessment of reading and vocabulary, was an encouragement for adopting a similar measurement in this study. Carson’s (2001, p. 79) study identifies “both general academic and discipline-specific vocabulary comprehension and use” as part of the requirements for students to participate in tertiary courses. Teaching students specific vocabulary-learning strategies seems an appropriate measure to increase student understanding of academic texts. These interventions could lead to raising the understanding of individual students of the importance of vocabulary, and so increase their self-efficacy. This in turn will increase their participation, effort and persistence.

The conclusion to Kuehn’s study emphasises the need for further research into academic literacy:

Linguists have made the theoretical distinction between cognitive academic language proficiency (CALP) and basic interpersonal communication skills (BICS) but ... it is clear ... that academic language is a second language for all students.

(Kuehn, 1996, p. 19)

2.5 Research questions

Much of the previous research into the development of literacy skills has focused on work with children, while studies on self-efficacy have concentrated on work with adolescents. Both these sets of prior research give valuable insights into the potential development of these two factors in adults with different life and first language experiences. Research that focuses specifically on adults is needed to address the issues raised in the literature. This call has been clearly made in the New Zealand context: “While there is a significant body of research focused on assessment and learning in the school sector, there is a paucity of studies focused on assessment for literacy, numeracy and language learning in the tertiary sector” (New Zealand Council for Educational Research, 2006, p. 1).

Not only is there a lack of research on assessment in adult learning there is an even greater lack of research on the relationship between academic literacy and self-efficacy and the relationship to the academic achievement of adults who have enrolled in a bridging programme to prepare for future academic study. This study will answer five research questions raised by the literature about adults in bridging programmes, academic literacy, self-efficacy and academic success.

The research questions derived from the review of the literature are:

1. What are the levels of academic literacy among participants in a bridging programme and to what extent do the levels vary according to the participants' background?
2. What are the levels of self-efficacy among participants in a bridging programme and to what extent do the levels vary according to the participants' background?
3. To what extent does academic literacy influence participants' academic outcomes?
4. To what extent does self-efficacy influence participants' academic outcomes?
5. Where do the self-efficacy beliefs of adults originate and what are the effects of them on their involvement in a bridging programme preparing them for future academic study?

2.6 Conclusion

The purpose of this chapter was to outline relevant previous literature focusing on academic literacy and self-efficacy of adult students. Research questions were established that explore the levels of academic literacy and self-efficacy, the extent to which these vary according to background of the participants, and the extent to which academic literacy and self-efficacy levels influence academic outcomes. The methods used to examine and answer the research questions are detailed in Chapter 3.

Chapter 3. RESEARCH METHODS

3.1 Introduction

This chapter focuses on the design of the study and the rationale that underpins it. The use of mixed methods research, which brings together quantitative and qualitative methods, is justified, and the methods used to answer the research questions are described. The participants and their context are outlined and the related ethical considerations and procedures adopted to manage these are discussed. This is followed by detailed descriptions of the data collection instruments, their construction and use. The chapter concludes with an outline of the methods used for data analysis.

This study assessed the academic and self-efficacy levels of adults who have enrolled in a post-secondary bridging programme to prepare for a future academic course. It canvassed participants' recollections and reflections on the sources of self-efficacy and examined to what extent levels of academic literacy and self-efficacy varied according to the participants' backgrounds. Further, this research investigated how these two factors relate to the academic results achieved adults by on the course, and the outcome of their application to an academic course of their choice.

3.2 Research design

The study adopted a mixed methods design to elicit data on individual academic literacy levels, self-efficacy for current and future academic literacy skills, and personal reports about participants' involvement with the educational process. Reading, writing, vocabulary and self-efficacy data were collected from a sample of adults. These quantitative data were collected during the same time period as semi-structured interviews were conducted. The latter gathered qualitative data in what Creswell, Plano Clark, Gutmann and Hanson (2003) termed a one-phase concurrent triangulation design. The mixed methods design was adopted to utilise the strengths of both the quantitative and qualitative methodologies and to provide a means of data triangulation.

Quantitative and qualitative research designs have their own particular advantages. A quantitative methodology allows the possibility of a larger sample size which can lead to a wider generalisation of identified trends. The smaller size of qualitative instruments enables extra detail and in-depth richness (Johnson & Onwuegbuzie, 2004). Interviews allow issues to be probed more deeply (Creswell, 2003). By mixing methods, the strengths of both quantitative and qualitative methodologies can be retained while the weaknesses inherent in each can be reduced. Quantitative research may be light on context and setting—the individual participant voices are subsumed into the anonymity of statistical aggregation and in some cases the personal biases of the researcher may have been suppressed and not discussed (Denzin & Lincoln, 2005). In contrast, the personal interpretations of the inquirer in some qualitative research are discussed at length which can also create bias in the findings. Smaller sample numbers can reduce the opportunity to generalise the results (Creswell, 2005).

The benefit of merging the quantitative and qualitative datasets is that a more comprehensive answer to the research question can be developed than each method could deliver by itself (Creswell & Plano Clark, 2007). A mixed methods approach allows for a pragmatic perspective to be used for a better understanding through the convergence of both broad numerical trends from the quantitative data and

the more personal in-depth explanations, embellishments and insights from the qualitative data (Creswell et al., 2003).

A further advantage of adopting a mixed methods research design is triangulation. Triangulation can add validity to research findings through the convergence of the extensive data available from the quantitative perspective, which can be more easily generalised, with the often more intensive data from qualitative methods. By combining qualitative and quantitative approaches there is the potential for adding strength to the research through what Denzin (1978) termed 'between-methods triangulation'. A strength of between-methods triangulation is that it is an efficient use of resources as both sets of data are collected at the same time (Creswell & Plano Clark, 2007). While "convergence upon a truth about some social phenomenon" (Denzin, 1978, p. 14) is usually seen as desirable, Greene, Caracelli and Graham (1989) explain that any of Denzin's (1978) three possible outcomes for triangulation – 'convergence, inconsistency and contradiction' – is acceptable. The important issue is the legitimacy of the explanation of the phenomenon or action studied (Johnson, Onwuegbuzie, & Turner, 2007). Olsen (2004) confirms that the use of survey data with accompanying interviews in a mixed methods approach is an effective structure for analytical triangulation.

Creswell (1999) describes the convergence model as the traditional one for mixed methods triangulation design. In this model, collection is concurrent and the data are merged once collection and analysis are completed. In using between-methods triangulation, the two datasets are analysed separately then they are converged, and results are compared and contrasted. These results are validated by using the qualitative results to add depth of explanation to the quantitative results.

In this study the connection between academic literacy and self-efficacy was explored by statistical measures of class-collected writing samples, reading test scores, a vocabulary test, and self-efficacy questionnaires. The analysis was deepened by combining qualitative interview data with the quantitative survey results for the same set of participants (Morse, 1991, p. 112). The semi-structured interviews providing in-depth probes into rich data have led to a deeper understanding of how and where self-efficacy develops and some of the reasons for participants' actions.

The differing methodologies allowed both breadth and depth to the inquiry (Johnson et al., 2007, p. 116) where the whole becomes greater than the sum of individual quantitative and qualitative parts (Bryman, 2007, p. 8) and can allow previously unseen data to be revealed. The different methodological perspective or 'lenses' enables a fuller view of the actions of participants being studied (Morse, 1994, p. 234). It is this complementarity which Greene, Caracelli and Graham (1989) claim as a rationale for mixed methods research. By adding another perspective, greater insights can be gained by making clear a particular reason why an observed action has occurred, adding an additional dimension to an observation, explaining a further step in a process or giving an insightful example of an occurrence (Johnson et al., 2007, p. 115).

Academic literacy was analysed by comparing and combining writing samples, reading tests, and a test of vocabulary levels. Self-reports of efficacy on meeting the requirements of the current bridging course and of a future academic course provided quantitative measurements while expressions of attitudes, reasons and understandings obtained from interviews supplied the qualitative data. The two

types of data provided a mixed methods triangulation convergence design, and were collected in a dual strand concurrent phase (Creswell & Plano Clark, 2007) from the same participants. This was done to reduce the potential influence of non-matched personal characteristics becoming a factor during the data mixing stage of the study. Demographic and experiential data, all student course grades, and future course acceptance where known, were also collected to examine if any demographic factors, experiential factors of the participants' backgrounds, or academic literacy or self-efficacy were connected to either course results or future course acceptance.

The two differing types of data were analysed separately then converged to triangulate the results in what Morse (1991, 2003) gives a QUAN + QUAL notation, where both are of equal importance, collected within the same timeframe. When the differing strengths and non-overlapping weaknesses of both data types are merged in one study the qualitative findings can be used to directly compare, contrast, validate and expand the quantitative results to provide a deeper but at the same time broader investigation into the changes that take place in adult participants in a bridging programme.

The data on academic literacy, as defined in Section 2.2.1 of Chapter 2 were collected during one semester of the bridging programme. A composite index of academic literacy was constructed for use in this study from the measurements of the three components of participants' reading, writing and vocabulary. It was used as an indicator of skills which would be needed in an academic course. Scores from questionnaires collected during the bridging programme were used to establish individual levels of self-efficacy. Collecting quantitative data from a class situation was a low cost method both in terms of time and money. Fraenkel and Wallen (2006, p. 400) suggest that such completed instruments often lead to a high response rate when administered to participants in a controlled group environment such as a classroom or workplace. The use of class groups in the Communication Studies course for the collection of writing samples, the testing of reading and vocabulary of students, and the completion of the in-course questionnaire proved to be both time efficient and effective and an 85% response rate was achieved. The number of responses enabled a sufficiently large sample size for statistical tests to be run with different groups of participants stratified by demographic and experience categories. Interviews provided the opportunity to gain in-depth qualitative data directly from the participants even though there were fewer respondents reached in comparison to questionnaires (Cohen, Manion, & Morrison, 2007, p. 252).

The semi-structured interview allowed the interviewer direction over the content and some control over the depth and pace at which the questions were answered. The face-to-face nature of the interview process allowed rapport to be built through personal interaction. For many people, answering questions in a conversation can be easier than responding in writing. For those who had English as an additional language the interview allowed for requests for clarification by the participant and recasting of items by the interviewer.

Academic literacy and self-efficacy levels were compared with each other and with participants' results in the bridging programme and their success in being accepted into the course of their choice. The strengths of the relationships between these separate items were tested statistically, and the attitudes towards them held by the participants were investigated through subsequent interviews. The scope of the design is outlined in Figure 3.1.

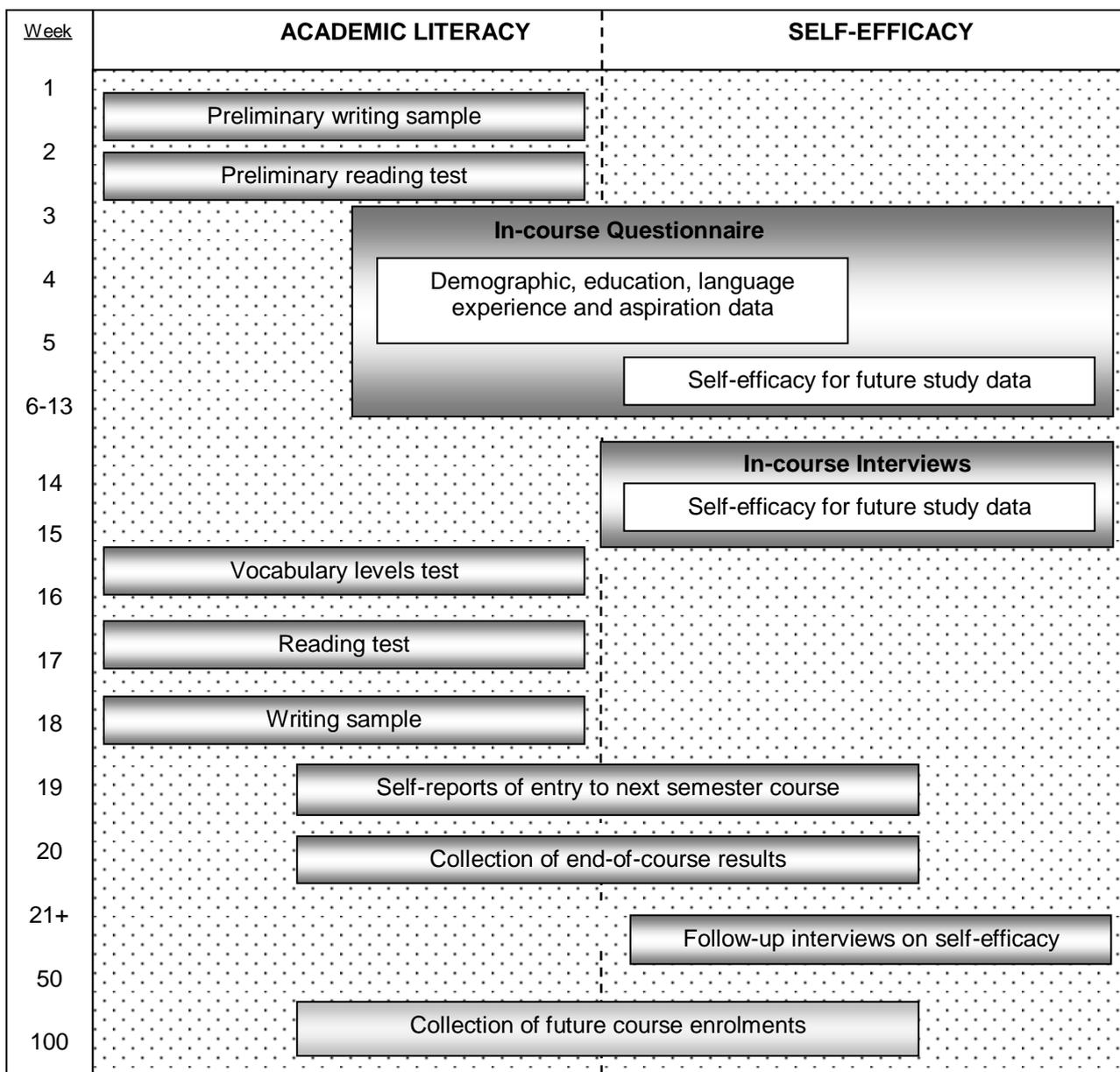


FIGURE 3.1 DATA COLLECTION INSTRUMENTS AND TIMING OF DATA COLLECTION

A preliminary writing task and a short reading test were administered to participants during the first and second weeks of the bridging programme. The purpose of these was to familiarise participants with the writing and reading test procedure which would be used later in the study. It also allowed for an outline of the research to be presented, for the researcher to be introduced by the class lecturer and for consents to be obtained. Between week 3 and week 5 (see Figure 3.1), participants completed the questionnaire which collected data on their self-efficacy for further study plus demographic and previous experience data. Between week 6 and week 14, semi-structured interviews were held with systematically sampled participants. These interviews contained questions on their levels and sources of self-efficacy. The vocabulary test was administered in classes during weeks 14 and 15. As shown in Figure 3.1, this was followed in week 16 with the reading test and in week 17 with the writing test as a practice for the final examination of the Communication Studies course of the bridging programme. The writing samples and marks from the reading and vocabulary tests were used with the participants'

consents. In the final week of the programme, information on future plans was collected together with permission to obtain their course grades and future course enrolments from the institute's database. At the conclusion of the 18-week programme, the end-of-course results were collected. In the second semester, participants who had been interviewed in semester one were located and interviewed a second time. Two years after completing the bridging programme, the course enrolments for the intervening four semesters for those who had given their permission were collected (see Figure 3.1).

3.3 Research context

The institution selected for the study, a polytechnic, offers courses at certificate, diploma and bachelor degree levels. In addition it offers a range of post-secondary level courses in Foundation Studies and English as an Additional Language for preparation for entry to the workforce, preparation for trades' courses, and preparation of tertiary academic courses. The institution has the largest numbers of students enrolled in a generalist foundation skills bridging programme in New Zealand. In 2003, the programme was one of two which accounted for more than half the bridging students in New Zealand (Benseman & Russ, 2003, p. 60) and this was confirmed as still being the case in 2008 (S. Varley, personal communication, October 4, 2008).

The selected institution is situated in a large metropolitan centre which had the widest ethnic and language diversity of any urban area in New Zealand at the time of the study. Over 24,000 students ([named] Institute of Technology, 2010) mirror the wide range of ethnic and language backgrounds of the diverse urban area that the institution serves. Not only do these students represent the potential diversity for many urban areas in New Zealand in the future, they are also representative of minority ethnic, language and migrant groups who have often found access to tertiary educational opportunities difficult (Benseman, 1996). The institution caters for large numbers of school leavers, those seeking upskilling in employable skills after a short time in the workforce, the unemployed, and second-chance learners returning to education after significant time in employment or with family commitments ([named] Institute of Technology, 2009).

3.4 Participants

The participants in the study were adults who had enrolled in a post-secondary general foundation skills bridging programme at the selected polytechnic. Due to their large number and the diverse communities and life experiences they represented, the participants provided insights into academic literacy and self-efficacy for students from a range of demographic, experiential and aspiration backgrounds.

The programmes they were enrolled in were either one, two or three semesters in length and designed to assist adults in gaining entry to academic courses. Which of the three programmes students enrolled in was based on the advice given by institute staff at an initial interview and placement test. Forty-one percent of the participants in this study enrolled in the minimum 18-week, one-semester course. The majority, 54%, enrolled for two semesters and 5% enrolled for three semesters. Of the 305 students enrolled in the bridging programme, 41 were not included in the study because of timetable constraints. A further 15 students had withdrawn from the programme or had

failed to attend even though they had enrolled. With these students excluded there were 249 potential participants in the study.

3.4.1 Survey participants

From the potential cohort of 249 students, 212 (85%) consented to participate in a survey of their academic skills and a self-efficacy questionnaire. The consenting participants were representative of the 249 potential participants in gender, age, ethnicity and first-language experience, previous education experience, current programme and planned future course. The details of these are presented in Chapter 4.

3.4.2 Interview participants

The students in the bridging programme were divided into 11 classes for their Communication Studies course. A stratified random sample of each class was taken by selecting for interview the fifth, tenth, fifteenth and twentieth student from a randomised list of participants. This gave a random selection across each stratum of class groupings. These 44 selected students were approached to seek their participation in the semi-structured interviews. Of the selected students, 30 agreed to participate, constituting 14% of the 212 study participants, and 68% of the 44 who were approached to take part. The aim was to interview each participant twice, firstly during the bridging course, and then again after completion of one semester of the course. Twenty-three of the original 30 interview participants participated in the follow-up interviews.

The interview sample figures show that the students who agreed to take part in the interviews were less representative of the bridging programme cohort and of the participant sample but not markedly so. The gender ratio, the proportion of Māori and Pasifika participants (53% of the sample), and those aged 16 to 45 years (92% of the sample) were similar for both groups. The 46-65 age category, the New Zealand European group, and speakers of English as a first language were over-represented, creating a smaller proportion of other ethnicities and speakers of English as an additional language than represented in the whole group.

3.5 Ethical considerations

Ethical issues are central to the partnership between researcher and participants and as such are considered as part of the methodology. As a staff member of the institution, I saw my role as an 'insider'. As a consequence, the importance of voluntary informed consent, the confidentiality and integrity of participants' information, the time commitment required by participants and lecturers in the bridging programme, and the recognition of the participants as individuals, were the ethical issues that needed to be considered and managed.

As an insider there are advantages and disadvantages (Mutch, 2005, pp. 85-86). Mutch advises that the researcher consider the situation carefully before undertaking the study to ensure that the appropriate ethical requirements are rigorously undertaken. This was done.

I was employed in the same administrative division of the institution as the bridging programme students and lecturers, but I was not in the same section of the faculty. I did not teach any of the

students and I was located in a separate building from them and their lecturers. Being in the same faculty provided ease of access, but being at a distance from the bridging programme, both administratively and geographically, meant that I was not put into a conflicting role as a teacher of the students. My presence in their classrooms and building was solely as a researcher. Participants agreed to enter the study with complete freewill, without any implicit coercion or favour which might exist or be construed in a teacher-student relationship.

The maintenance of confidentiality for participants was important (Mutch, 2005, pp. 85-86). Confidentiality was maintained by test papers, writing samples and questionnaires being assigned a unique code for each student. The class teachers were not aware which students were participating in the study. The feedback of results was made only to individual participants, and their lecturers were aware of group—not individual—scores when these were provided for feedback to the class. No results were made known to other lecturers, other students or published on notice boards, nor were they made available in any written document. No participant can be identified in any report except by the participant himself or herself remembering his or her own interview comment.

Voluntary informed consent is the cornerstone of the appropriate ethical requirements for research given in the guidelines to applications for ethical approval from the University of Auckland Human Participants Ethics Committee (UAHPEC) (University of Auckland, 2010). Prior formal approval of the study was granted by the ethics committee both of the university supervising the research and the ethics committee of the institution where the study took place. The guidelines were outlined to potential participants and have been adhered to. The academic literacy test data and the self-efficacy questionnaires were recorded on written scripts and these were stored securely in a locked filing cabinet. Interview transcribers and markers followed the confidentiality protocols with original interview material and transcriptions stored in digital form on memory stick and locked with printed copies in the same filing cabinet. No files remain on any hard drive or network system. The ethical approval number, the researcher's supervisor's name, and the researcher's and supervisor's contact details were on the information sheet which participants retained.

I was introduced to each of the Communication Studies course classes by the relevant lecturer. I outlined the purpose of the study and answered any questions raised. Each student was given a participant information sheet with names, and telephone and email contacts, along with a description of the study. After the outline, explanation and questions, each student was given time and space to complete the form which gave the opportunity to either participate or to decline to participate. After signing, all forms were folded to ensure confidentiality and posted in a ballot-style box.

Time is a significant cost borne by participants. Procedures to manage the time commitment were explained at the outset. The outlining of the study and the participation consent, the writing sample exercise, the reading comprehension and Nation's Vocabulary Levels Test (VLT) (Nation, 1983) were all undertaken in allocated class time. Permission from the institutional section manager and the academic co-ordinator in charge of the Communication Studies course was obtained. The activities were recognised as providing useful material for informing Communication Studies lecturers about their students' academic literacy needs and progress. I worked with each lecturer individually to find a time of least disruption to teaching activities in the class, and provided scores for the reading

comprehension and vocabulary tests in a timely manner so lecturers could make best use of the class results.

The semi-structured interviews took place in students' non-class time, which I anticipated would require greater individual commitment on the part of participants. The extra time commitment was outlined and students were free to choose to participate in the interview or not. One participant chose to withdraw from the second interview. Interviewees received a second participants' information sheet. All interviews were recorded, and participants were informed that their identities would remain confidential and that non-identifying substitution and blanks would be used when words which could be identified were used in the research report. All interviews were transcribed by a transcriber who had signed a confidentiality agreement.

3.5.1 Cultural diversity

The participants in this study represented the diversity of New Zealand in the twenty-first century to date. In situations where specific cultural or ethnic groups are studied there are definite methodologies to follow such as Kaupapa Māori or Pasifika research paradigms in New Zealand. There is a strong possibility that in many research situations nearly every researcher will be working with participants with a mix of cultural and ethnic perspectives, most of which will be different from those of the researcher. It is necessary to "consider how cultural diversity in contemporary New Zealand society requires us to consider cultural aspects of the conduct of research" (Kearns & Dyck, 2005, p. 79).

Cram outlines a history of the movement towards and the need for "representation, collaboration, empowerment and reciprocity" (1997, p. 44), and cites Durie (1996), Irwin (1994) and Smith (1990) as authors of useful guidelines for Māori researchers. A succinct summary with explanations and guidance is given by Forster (2011). As a New Zealand European/Pākeha male I needed to understand the place of Pākeha researchers. Although some writers discount research involving Māori participants by anyone other than Māori as lacking validity on grounds of a lack of understanding (Cram, 1997, p.47), Stokes made the point that "racial and biological origin or skin colour is less important. What is important and essential is that the researcher can operate comfortably in both cultures, is bicultural and preferably bi-lingual" (Stokes, 1985, p. 9).

Similar issues are raised by several writers on methodological issues in relation to research with a Pasifika perspective (Anae, Coxon, Mara, Wendt-Samu, & Finau, 2001; Pacific Education Research Team, 2002; Fa'afoi, Parkhill & Fletcher, 2006). Mutch (2006) cites a number of other authors who collectively emphasise the importance of cultural safety for the participant, and the interviewer. It is "the notion of partnership in research" which Kearns and Dyck (2005) see as the "key element of culturally safe research", where the end product "can, and should, inform (and even transform) social ... research in Aotearoa New Zealand" (p. 78).

In this study, Māori made up 20%, and Pasifika, 31% of the participants, with a further 34% coming from predominantly Asian, and other non-New Zealand backgrounds. I specifically dealt with this possible tension by recognising each participant as a unique individual possessing insight into the education process they were involved in. The institution has a number of language and cultural support personnel available and their services were offered to participants when undertaking the

interview. All participants stated they felt comfortable undertaking the interview without additional language or cultural support and none requested a support mentor.

A more significant issue than ethnicity however, was, I felt, gender. With three-quarters of the interviewees being female, I specifically arranged to meet in public reception areas or recognised glassed interview rooms, allowing participants to set the time and place for these. During the information-dissemination/consent-gaining sessions participants were informed that they were able to have a friend or family member attend the interview with them if they wished. Two participants took advantage of this by asking to be interviewed together. Cultural safety is achieved through researchers being aware of their own perspective; giving respect to the knowledge, values and practices of the participants; and critically analysing the effect of their actions on the knowledge produced (Kearns & Dyck, 2005, p. 78).

The mixed method research methodology adopted provided opportunities through the interview process for participants to be seen as individuals made up of unique cultural, linguistic and personal characteristics. In quantitative methodologies, “the propensity to enumerate can easily reduce nuanced meanings of another ethnic group to a mere statistic” (Kearns & Dyck, 2005, p. 87). Accepting this enabled the reciprocity advanced by Cram (1997), and endorsed by Mutch (2006, p. 52), and Kearns and Dyck (2005, p. 87), as a best practice model for promoting cultural safety to occur.

Unavoidably, this study has been undertaken from a male/46-65 age group/Pākeha-Palagi-New Zealand European/English as a first Language -Te Reo as a second Language/tertiary educated /professional educator perspective.

3.6 Data gathering procedures

Data were collected on academic literacy and self-efficacy in order to compare these two factors with the programme results and acceptance into future courses. The reading test, writing sample, vocabulary test, demographic and experiential data form and the perception questionnaire were all pen-and-paper collection instruments. Initial and follow-up interviews were recorded using digital recorders and stored electronically using a data transcription programme.

3.6.1 Demographic data

Specific demographic data on gender, age, ethnicity and first language were collected from all students in the bridging programme as part of the enrolment process. These were confirmed with self-reports of specific demographic data for gender, age, ethnicity, and experiential data on first language, educational level attained, current bridging programme level and future course aspiration, which were all collected in a section preceding the self-efficacy questionnaire. These are reported in Chapter 4 and were used to compare the composition of the participant sample with the potential cohort to assess the validity of any generalisations. The key use of these data was to evaluate the extent that participants’ academic literacy and self-efficacy levels varied in relation to their backgrounds.

3.6.2 Academic literacy data

As outlined in Chapter 2, Section 2.2.1, academic literacy in this study was based on Newman's definition of literacy: "knowledge of a communicative system and its elements necessary to work with that system in the domain specified" (2002, p. 33). With the specified domain here being the educational environment of tertiary academic study, Newman's general definition for literacy became the operational definition for academic literacy. Johns (1997) recognised literacy as the skills needed to understand, discuss, organise and produce both written and oral texts. Academic literacy was observed in this study as it is recognised as a key component in academic success. Formal credentials which recognise a certain level of academic literacy are required by tertiary institutions and professional bodies as entry criteria to academic courses. The most common of these are qualifications gained at the final two years of secondary school. In the New Zealand context they are made up of certain numbers of credits at particular levels, mostly Levels 3 and 4 of the National Certificate of Educational Achievement (New Zealand Qualifications Authority, n.d.). Because of the nature of the participants and this study, a large number of participants did not have these credentials. Consequently, academic literacy measurements were constructed and administered to participants as part of the study.

Measurements of reading, writing and vocabulary skills were collected as samples of participants' performance in the text processing components of what Cummins (1979, 2000a) calls 'cognitive/academic language proficiency (CALP)', the level of language skill required to participate in more challenging academic contexts. Reading comprehension was tested because it is a "skill which contributes to successful academic learning" (Urquhart & Weir, 1998, p. 112). It is noted that in academic situations there is a "greater degree of syntactic complexity in written texts" (Urquhart & Weir, 1998, p. 32). In addition, they are not context-embedded in the way that face-to-face listening and social interaction are: even formal listening, such as that common in lectures, has situational components which aid comprehension. Academic writing requires a mastery of formal structuring to produce syntactically complex and cohesive prose. Reading of academic texts requires the decoding of that complex syntax. The lexical barrier identified by Corson (1997) points to the importance of the inclusion of vocabulary as the third measurement of academic literacy.

The writing samples were collected near the end of the course. The reading comprehension test and the Nation's (1983) VLT were administered in the fortnight prior to the writing test. These three quantitative measurements were combined to give a composite index of academic literacy (CIAL). Each of the three separate components and the CIAL were analysed in relation to self-efficacy, programme results and acceptance into future courses.

The Learning Progressions (LPs) for Adult Literacy (Tertiary Education Commission, 2008b) have been developed to provide an assessment framework for identifying the literacy levels of adults in New Zealand (Tertiary Education Commission, 2008c).¹ The framework covers four strands: Listen with Understanding, Read with Understanding, Speak to Communicate, and Write to Communicate. Within

¹ The full Learning Progressions (LPs) are available online at <http://literacyandnumeracyforadults.com/The-Learning-Progressions> (Retrieved 20 January 2012)

each strand the macro-skill is divided into between four and six skill areas called LPs. Each LP has up to six measurable steps with given criteria against which the learner is assessed.

The quantity of learning required to reach the next step is different for each level. A learner's movement up the levels in each LP does not rely on movement in other LPs and is quite often different in each case. It is common for a learner to have different levels of skills both within and between the macro-skills (Tertiary Education Commission, 2008c, p. 4). That is, a learner may be on different levels for each macro-skill strand, and within each strand be on different steps for each LP skill area.

A. Assessment of writing

A writing assessment was collected to provide a measurement for the first of the three components of the CIAL. The LPs were used to measure the writing component of academic literacy in this study as they provide a standard which is becoming established at a national level for describing adult learning.

The Writing strand has six LPs. These are Purpose and Audience, Spelling, Vocabulary, Language and Text Features, Planning and Composing, and Revising and Editing. These LPs categorise the writing process from the recognition of purpose and audience in the planning stage, through the actual production of correctly spelt words and choice of vocabulary linked into sentences which exhibit particular language and text features, to reviewing, correcting and improving the written product. Specific criteria are listed to assess writer competence at each LP step (Tertiary Education Commission, 2008d, p. 6). These criteria were used to rate each participant's writing sample. All features of the particular step must be present to rate a writer at that step.

i. Writing assessment tool

The writing sample to assess participants' academic literacy was taken near the end of the semester-long bridging programme. One of the final assessment tasks for the Communication Studies course of the programme was to write an academic essay within a given time on a designated topic for which three reference articles had been supplied to students to be used in the test. Participants wrote a practice essay under test conditions similar to the final essay task, and with participants' permission copies were taken of this practice test and marked against the LPs. There were two reasons for using a writing task which was part of the course: it had authenticity as a mode of assessment the participants knew they would be undertaking; and it reduced the time burden on students who were preparing for major assessments in all courses. For this study, the writing samples were marked by an independent writing assessor using levels related to the LPs (Tertiary Education Commission, 2008c) as outlined in the following section.

ii. Reliability and validity of the writing assessment tool

The rating of participants' writing samples was based on published guidelines (Tertiary Education Commission, 2008d). The topic chosen for the assessment tool had face validity for the participants as it was a topic that they had studied as part of their coursework, and three of the reference materials which participants had been presented with previously as part of the teaching programme were supplied in the test. The task which asked for three-to-five well-constructed connected paragraphs written for an academic audience in a formal style, also had face validity in that it was what

participants could reasonably expect to have to produce as the final assessment for the programme they were enrolled in.

The documentation accompanying the assessment tool (Tertiary Education Commission, 2008d, p. 16) outlined seven assumptions for validity:

- The writing task provided written material attestable as produced by the participant without assistance or copying;
- The assessments contained a purpose and audience for the text which were authentic for participants;
- The clarity of purpose and development of a sense of audience were assessable;
- The samples contained evidence for assessing paragraph and sentence structure, vocabulary and language features;
- Surface features of sentence grammar and spelling were visible;
- The topic allowed participants to use features of context and previous experience with the supplied resources to be used in production;
- Instructions to the writing task encouraged participants to plan their answer and a separate planning page was provided with the assessment tool which would enable the task to be assessed on the Planning and Composing LP.

These seven assumptions were met. The number of paragraphs required was indicated in the instructions and in the amount of lined paper provided, with extra paper available on request. Participants were able to edit and revise their writing individually, but because of the group nature of the administration of the tool and the self-imposed time limit by some participants, the Editing and Revising LP was the most problematic to assess. Although many participants did have corrections and parts of sentences deleted and rewritten which could be interpreted as indications of editing, it was not possible to record any observation of individual participants engaging in reviewing and proofreading their own writing. For those samples without obvious corrections, the score for this LP was assessed on the density of uncorrected grammatical, spelling and vocabulary errors.

Eleven scripts, one from each of the Communication Studies classes, were randomly selected and marked independently by two raters with experience of marking writing scripts against the LPs for Adult Literacy. These marked scripts were discussed by the two raters to establish a consistent application of the criteria. After all scripts were marked, a further script from each class was randomly selected and marked by a third rater who also had experience of marking using the LPs. The original 11 scripts, together with the additional 11 scripts made two randomly selected scripts from each class, or 6% of the total writing scripts. The two sets of 11 scripts were cross-marked by the three raters using the marking scheme. A Pearson correlation co-efficient of the total marks given by the two raters for each of the 22 scripts showed that essentially the two raters had marked the scripts identically ($r_{(n=22)} = .999, p < .001^{(2\text{-tailed})}$). The same statistical test between each of these raters and the third check-marker produced virtually the same result ($r_{(n=22)} = .956, p < .001^{(2\text{-tailed})}$).

A further check on the 22 cross-marked scripts was made by converting the scores for the writing into LP levels. There was a 100% match between the levels scored by the two moderated markers. The

check-marker graded 18 of the 22 scripts (82%) at the same LP level, with the remaining 4 scripts only one LP level different, a result within the acceptable tolerance levels for marking standardisation.

B. Assessment of reading

The second component to be measured of the CIAL was reading comprehension. The purpose of the test as a data collection tool was announced to participants and as such was voluntary. At the start of the year the New Zealand Council for Educational Research (NZCER) had called for volunteers to participate in a reading comprehension test trialling questions for a nationwide test of adult literacy. The details of this are discussed. Most participants had volunteered to be involved in the national trial which had the same types of questions as this study's comprehension test. It was suggested to participants that it would be a useful practice activity for reading material designed for adult New Zealanders under test conditions. Participants answered short-answer and multiple-choice questions related to short written texts. The Read with Understanding strand is made up of five LPs: Decoding, Vocabulary, Language and Text Features, Comprehension, and Reading Critically. Although all five operate together (Tertiary Education Commission, 2008e, p. 6), they are observable in different ways.

The skill of decoding written symbols into meaning is reflected in the number of words a reader can recognise automatically. While this skill impacts on reading fluency and speed, it is more usually discernible when reading aloud. This was not able to be assessed in the reading task for this study. An understanding of how language, text and visual material display meaning, the core element of the Language and Text Features LP, is gained from reading experience. Examples of language and text features are the form, style and features of differing text types such as posters, tables, information texts, reviews and narratives, the particular location of main ideas and specific information, and the use of headings and diagrams to signal text organisation. This skill is used by readers when navigating a text and is related to using reading time effectively. A reader's familiarity with features such as punctuation, paragraphing, and the use of phrases and clauses aids comprehension but as with Decoding, this skill is difficult to measure in a comprehension test. Given the group setting for the reading comprehension test administered to the participants, the Decoding and the Language and Text Features LPs were not assessed for this study.

The reading test related to the remaining three of the five LPs of the Reading strand: the Comprehension, Vocabulary and Reading Critically LPs. The Comprehension LP was measured by multi-choice questions and the selection of relevant text from the stimulus text which was designed to test the reader's recognition of purpose and use of comprehension strategies to understand texts exhibiting a range of linguistic, semantic and organisational complexities. The Vocabulary LP was measured by multiple-choice questions on the meaning of a small number of specified words in the text. Vocabulary can be assessed objectively and separate vocabulary questions contributed to the overall scores in the reading test used. However, because of the importance of what vocabulary knowledge adds to academic literacy beyond just reading skill, an additional vocabulary test, Nation's (1983) VLT, described in detail below, was also administered as part of this study. The Reading Critically LP was tested by readers being required to select the correct choice from a list of differing points of view, identifying a writer's purpose, and using strategies to analyse ideas and information to evaluate validity and bias in writing. For this study the Comprehension, and Reading Critically LPs,

together with a small number of the Vocabulary LP were collectively labelled as 'Reading Comprehension'.

A preliminary reading comprehension test was administered near the beginning of the course, using the diagnostic assessment process based on the LPs (Tertiary Education Commission, 2008e). This was developed by TEC and was extended by the NZCER and the Australian Council for Educational Research (ACER) into a comprehensive reading assessment (Tertiary Education Commission, 2008e, p. 13). It was part of the Literacy and Numeracy for Adults project which itself is part of the New Zealand Ministry of Education's *Learning for Living* strategy (New Zealand Council for Educational Research, 2006). The reading assessment for this national project is an online adaptive tool linked to the LPs (National Centre for Literacy and Numeracy for Adults, 2009). In 2009, the developers needed adults to trial test material at the pen-and-paper stage before going online. I outlined the present research to a co-ordinator of the project and gained permission to use the trial materials for this study in return for trialling the material. The reliability and validity of these trial materials are discussed.

The test consisted of multiple-choice and short-answer questions on both continuous and non-continuous text from a range of authentic contexts. These tests had been designed to be used with adults to assess the strand Reading with Understanding on the LPs.

Candidates were asked:

- for the Vocabulary LP,
 - to identify the meaning of words in context,
 - to identify synonymous sentences in a specified paragraph in continuous texts;
- for the Language and Text Feature LP,
 - to locate specifically stated information in a text,
 - to locate specifically stated information in a table;
- for the Comprehension LP,
 - to locate directly stated and synonymous information in short simple texts and short general texts,
 - to identify an explanation for a situation or a phenomenon reported in writing;
 - to demonstrate an understanding of similarities and differences explained in text.
- for the Read Critically LP,
 - to recognise the purpose of a short text,
 - to recognise the purpose of a statement in context,
 - to interpret text.

(Tertiary Education Commission, 2009).

The pen-and-paper tests were administered to the Communication Studies classes. Individual participants received their scores from the reading tests with indications of the overall mean and range of all students in the study.

i. Reading assessment tool

The reading comprehension test contained nine texts and 46 questions. It was administered near the end of the course. Participants were familiar with the type and style of questions and mode of answering by having participated in a shorter preliminary test. Having a single uniform test for all participants meant that valid comparisons could be made between individuals and groups.

Twenty test texts and questions were supplied by the Literacy and Numeracy for Adults project which is part of the Ministry of Education's *Learning for Living* strategy (Tertiary Education Commission, 2009). The texts and questions were spread across three broad levels: elementary, intermediate and upper intermediate. With permission from a co-ordinator after discussion with the writers of the trial materials (J. Whatman, personal communication, 'Using the trial material', January 29, 2009) nine of these 20 test tasks were combined to create one test to be used for the reading assessment. The mean scores for the 20 tests were calculated. Nine tasks and their questions were selected and combined to produce a reading assessment for this study. A balance of two elementary, four intermediate and three upper intermediate texts with 46 questions was chosen. Mean scores were used to remove the six easiest and five most difficult reading tasks and questions, leaving a balanced test of nine sections for the test for this study. Having one test with a mix of easier and more challenging material enabled a spread of marks to be obtained with which to construct the CIAL and allowed comparisons to be made between participants.

My aim was to have a test which could be administered during one hour of class time. In an effort to spread the reading load across the entire test, the differing levels of the nine texts and questions were mixed. They were arranged in the order of elementary, intermediate, intermediate, upper for the first four texts and questions, with this order repeated for the second set of four texts and questions. The test concluded with the ninth text and questions at the upper intermediate level.

The allocation of marks is problematic in such tests—should difficult texts and questions be allocated more marks than less difficult ones? Test takers need to be informed of the mark allocation on the test paper and under such conditions participants might decide to spend more time concentrating on the more difficult, but higher scoring texts and questions. For simplicity of analysis, each question was worth one mark regardless of level, as they had been in the trial materials. Having a graduated pattern from elementary to upper-level reading in the first four questions then repeated, rather than having all the least difficult texts first and working through to all the most difficult at the end, was designed to reduce reading fatigue and to offer encouragement to participants to keep going throughout the test. The test had a time limit of 50 minutes.

ii. Reliability and validity of the reading assessment tool

The reading comprehension tool used material and questions developed by NZCER in collaboration with ACER (Tertiary Education Commission, 2010). The questions were developed by a panel of five expert test developers reviewing possible material against criteria of relevance, interest to New Zealand adults, textual coherence, level related to the LPs, ethical or cultural sensitivities and possible bias to certain subgroups. All texts and questions used were trialled by 662 adults participating in the Literacy and Numeracy Trial Project (New Zealand Council for Educational Research, 2009) across New Zealand.

C. Assessment of Vocabulary

The third component of the CIAL was vocabulary. While Vocabulary is a LP in the Read with Understanding strand, vocabulary knowledge was also measured separately in this study. The reason is that it is well documented in the literature (Grabe & Kaplan, 1996; Nation, 2001; Read, 2000; Urquhart & Weir, 1998) that vocabulary knowledge plays a significant role in reading as it is the vocabulary which carries most of the meaning of text; and in writing as well, as the correct use of precise vocabulary marks writing expertise and acceptance into the academic discourse community (Corson, 1997). Vocabulary however has an even greater importance, as it plays a significant role in aiding or restricting competence in communication (Read, 2000, p. 8). This is also emphasised in the explanations given in the LP, where it is recognised that “a wide vocabulary is needed for learning in all the progressions in reading, writing, speaking and listening” (Tertiary Education Commission, 2008c, p. 5). Nation (2001, p. 12) adds the importance of the 570 headwords of the Academic Word list in academic tasks. To assess vocabulary knowledge the Vocabulary Levels Test (VLT) was administered to the participants. This test is available in the public domain (Nation, 2001, pp. 416-424).

i. Vocabulary Levels Test (VLT)

Paul Nation from Victoria University, Wellington, New Zealand, developed the VLT (Nation, 1983) as a diagnostic tool for teachers to develop teaching and learning programmes for second language speakers. It has since become a commonly-used means of estimating vocabulary size (Beglar, 2010, p. 101; Read, 2000, p. 118). The VLT is based on the premise that some words in English are used more frequently than others and that the more frequently occurring vocabulary is more likely to be known by learners. Nation used words from West’s (1953) frequency lists which had been scrutinised for out-of-date words and are available in a separate document (Nation, 1984).

The VLT covers four of the Word List (WL) levels—the Second-Thousand WL, Third-Thousand WL, Fifth-Thousand WL and Tenth-Thousand WL—and one on the 570 words of the Academic Word List (AWL) (Coxhead, 2000). The Second-Thousand and Third-Thousand WLS contain vocabulary needed to operate in everyday English contexts (Nation, 1990, p. 261). These words are needed for readers to understand most authentic texts (Read, 2000, p. 119). The Fifth-Thousand WL is considered to contain the least frequent words that might be incorporated into teaching programmes. The fourth section contains words from Coxhead’s (2000) AWL which are commonly used in text books and articles in academic courses. The fifth section covers less common words from the Ten-Thousand WL. The form of the test is a discrete context-independent, selective test (Read, 2000, p. 117), where candidates match groups of six words to three definitions at a time. In the Schmitt, Schmitt and Clapham version (2001) and Nation’s 2001 VLT (Nation, 2001, pp 416-424), there are 60 words and 30 test definitions at each frequency level except for the AWL section where there are 72 words for the 36 test definitions. Test B of Nation’s (1990) version with a 60-word AWL section was used in this study to give comparable results across each of the five sections.

The LVT was used as an estimate of participants’ vocabulary size for this study and to provide a diagnostic assessment which lecturers could use to assess their students’ vocabulary levels. It was administered as a preparation activity for students as part of a lecturer-led class evaluation of

vocabulary needs before the students' end-of-course examinations. Scores and levels attained in the pen-and-paper tests were returned to students the following day. The scores and levels were accompanied by explanations and suggestions for lecturers and students on the words students could focus on for their academic reading and writing, and how to increase their word power.

ii. Reliability and validity of the vocabulary assessment tool

A validation of the VLT by Read (1988) examined test score consistency across levels, and the implicational scaling of the test. Read found that the mean scores for each of the sections of the test declined as word frequency decreased. This validated the test in that the premise—that learners are more likely to know the more frequently occurring vocabulary—had been met.

I replicated Read's test with the data from the participants in this study and found that the present study conformed to the same standards for high scalability. The Guttman scalogram analysis and the coefficient of scalability (Hatch & Farhady, 1982, pp. 176-187) employed by Read were used to check the internal consistency of the test, that is, where a candidate who scored well in the less frequent word sections would also score well in the more frequent sections. The data from the current study produced co-efficients above the recommended levels needed to establish validity for both reproducibility and scalability. The process and results for both these tests are detailed in Section 5.4.1 in Chapter 5.

D. Composite index of academic literacy (CIAL)

The writing score obtained from the six sections of the Writing to Communicate strand, together with the score from the 46-question reading comprehension test, and the scores obtained from the VLT were used to assess participants' academic literacy. The measurements for reading, writing and vocabulary tests were analysed separately and then combined into an overall composite index, the CIAL. The CIAL was established to test the hypothesis that "academic success is primarily influenced by academic ability", but with only a moderate correlation (Zimmerman & Cleary, 2006, p. 52). The justification for including an interval vocabulary score rather than the level for each participant is detailed in Chapter 5.

3.6.3 Self-efficacy data

A self-report questionnaire was the major instrument used to gauge each participant's level of self-efficacy. This enabled a quantifiable assessment of participants' perceptions of their self-efficacy beliefs. The construction of the questionnaire is described in Section 3.6.3.A. For the participants who were interviewed there was an equivalent section in the post-course interview. The interview is described in Section 3.6.3.B. Semi-structured questions in the interviews generated qualitative data on reasons, attitudes and sources of self-efficacy which enabled the exploration of the relationship of self-efficacy to participants' expectations and definitions of success, the perception of gaps in personal skills, and whether self-efficacy beliefs influenced their perception of benefits of participation in the bridging programme. The extent of the range of the sources of self-efficacy on the participants could also be examined.

A. Questionnaire

The self-efficacy perception and demographic questionnaire was administered relatively early on in the programme. The timing was set in an attempt to gauge participants' reporting of self-efficacy as close to entry as possible, before the programme had significantly influenced their ratings and attitudes. It also improved the capture of information and opinions from those who might not complete the bridging programme.

Personal demographic details were obtained in the same collection opportunity. The wording of the questionnaire is reproduced without presentation formatting in Appendix A. The questionnaire began with a section collecting factual demographic data on gender, age, and country of birth; educational details on qualifications and study or training experience after leaving high school; first language; and planned future course and planned future career. Demographic and experiential information was required for the examination into if any aspects of the participants' backgrounds affected levels of academic literacy, self-efficacy or academic outcome. Questions on self-efficacy followed those on demographic details. Self-efficacy perceptions collected by structured questionnaire have proven to be both valid and reliable for assessing attitudes, beliefs and values (Dörnyei, 2001, p. 199).

Using the definition of self-efficacy outlined in Chapter 2, Section 2.4.1 as the personally held judgements that each person makes of their own ability to successfully achieve a particular goal, participants were asked five questions about their self-efficacy relating to their academic literacy skills in their current bridging programme, and five questions on aspects of their perceived performance in a future academic course. Two summary indices of self-efficacy for each participant, one for each for the two situations, were then calculated by adding the self-efficacy ratings for each participant for each set of five questions. The original plan was to combine the self-efficacy scores for all ten questions to create a composite index of self-efficacy (CISE). This was modified after data collection, however, as outlined.

The self-efficacy ratings were collected once from participants and twice from the interview candidates: firstly in the questionnaire, then again in follow-up interviews in the following semester. To check for any changes in self-efficacy the responses of the interview candidates were compared with their reports in the questionnaire. These are detailed in Section 9.8. The standard reliability check for measures of this nature is performed using the same instrument and mode of collection; in this study the candidates did fill out the same written form but with the addition of prompts given by the interviewer in the face-to face interview. Alderson, Clapham and Wall (1995, p. 188) offer the encouragement that "as long as each complete test tests the same thing" then a parallel method is acceptable. When the questions were repeated in the follow-up interviews the purpose was to monitor any changes in individual participant ratings taken during the first semester programme, and the following semester, either after leaving the bridging programme for some participants, or on returning to a second semester, for others.

The first step in developing the questionnaire was to establish the variables which would examine participants' self-efficacy beliefs related to academic literacy and to their future performance in an academic course of their choice. Participants' personal self-efficacy beliefs were canvassed on these two variables through the ten questions of the questionnaire. Five questions were developed to gather

the participants' perceptions of aspects of their academic literacy skills in the current bridging course; and five related to participants' self-efficacy beliefs of a future occurrence—the grade score they believed they would achieve at the end of the bridging programme, their self-efficacy to enter and perform in their future academic course, and their readiness for a future course.

The first five questions asked participants to rate their own perceived ability to read and comprehend academic texts, understand academic vocabulary, read academic texts at a sufficiently rapid rate, write academic essays, and accurately spell the words they wanted to use in their present course. These items had face validity as they were all skills participants were required to perform at the time of the administration of the questionnaire. These questions related to participants' self-efficacy for their academic literacy skill level in relation to the present bridging programme.

For the second variable, the participants were asked to give their perception of their self-efficacy at the time of reporting with regard to a future situation. They were asked to estimate what grades they would be awarded at the end of their current bridging programme; to rate their self-efficacy to produce written work at a level required for their proposed academic course; to rate their ability to participate in the overall academic requirements of a planned future course, and to estimate their overall capability in it by estimating their future course grade. Participants were asked to predict their chances of being accepted in, and their preparedness for, the future planned course. These questions also had face validity as they were constantly focused on by both the students and the lecturers in the bridging programme.

The instructions asked participants to rate their self-efficacy along a scale which had both numerical values and labels. Likert items asking participants to mark a number or a word tag along a continuum are commonly used in measurement instruments for obtaining attitudes and self-efficacy reports. This questionnaire adopted a percentage scale based on Bandura's (2006b, p. 312) suggestion that "a 100-point scale ranging in 10-unit intervals from 0; through intermediate degrees of assurance, 50; to complete assurance, 100" is suitable for self-efficacy questions. Bandura's reasoning for this is that self-efficacy scales are perceived probability statements. Many situations in modern society use a percentage scale to describe probability to the point that it has become a layman's shorthand for probability predictions.

The scale used in this study ranged from zero with the label 'Cannot at all', to 100% with the label 'Completely sure'. The full scale is given in Figure 3.2. This combined the advantages of both a semantic tag and a numerical assessment providing an interval measurement of data. For the participants who took part in the follow-up interview their individual self-efficacy scores were explored in both the questionnaire and in the semi-structured interviews which used the same scale.

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Cannot at all		Not very sure		Maybe I can		Fairly sure I can		Pretty sure I can		Completely sure I can

FIGURE 3.2 CONFIDENCE PERCENTAGES AND LABELS IN THE PERCEPTION QUESTIONNAIRE

The next stage in the questionnaire development was to run a readability test on the written material in the questionnaire. The results of the Flesch-Kincaid Reading Ease Index returned a score of 67

indicating the text was not difficult. The grade reading level of 6 indicates that it can be expected to be readable by people who can read at a primary school level (Utilities for Online Operating System, n.d.) that is, after completing six years of formal education. A panel of five experts was created including the lecturer in charge of the Communication Studies course, who was asked to nominate two other senior lecturers from the bridging programme who would be teaching the Communication Studies course. A programme leader from the School of English who runs programmes for students who have English as an additional language, and the co-ordinator / assessor from the literacy programme were invited to join the panel and attend a meeting to critically examine the wording, purpose, timing allocated and presentation of the questionnaire.

A field test of the instrument followed using a group of 21 students similar to the intended participants but who were not part of the study. Although a number between 20 and 30 is suggested for a field test, four of the group were called away to another activity on the day of the trial, and two did not wish to participate. A discussion was held with the group of 15 after the administration of the questionnaire to ask participants if there were any questions that they did not understand and to look for improvements. There were no issues with the readability of the items. The only questions related to the scale, and in clarifying where and how participants were to give their answers. As a result of suggestions and discussion of this response-validity phase, semantic tags were added to the percentage scores, and arrows, boxes and short clear instructions added to clearly indicate the place for writing the answers.

Cronbach's analysis for internal consistency was used to establish reliability. Griffin (2005) recommends using both the corrected item-total correlation between the scores on the given item and the scores based on the rest of the items in the test, and Cronbach's alpha if-item-deleted statistic in the analysis. Bachman and Kunnan confirmed that "the statistics that are the most useful for identifying items for potential deletion are the corrected item-total correlation and the alpha-if-item-deleted" (2005, p. 64). These allow for a simultaneous statistical review of the relationship of each item with the other items in the bank and the effect if a particular item is removed from the analysis. A test of the responses to all ten questions gave the co-efficient $\alpha = .896$ which showed a clear relationship between all questions. However, four runs of the Reliability Analysis on different combinations of items returned results which led to the formation of three summary measures for self-efficacy instead of the planned two. The first, with an alpha value of $\alpha = .944$ and with no single item raising this co-efficient if deleted, was made up of six items: the first five questions relating to current academic literacy plus the addition of participants' estimates of their bridging-course grade average. This became the summary measure Self-efficacy for Current Academic Literacy Skills (SECALS). The second summary measure—using three items of the self-efficacy questionnaire relating to acceptance into the future course; ability to perform the writing required in the future course; and expected grade outcome for the future course—had an alpha coefficient of $\alpha = .745$, above the acceptable limit of $.700$. This became the summary measure Self-efficacy for Future Performance in an Academic Course (SEFPAC). The question asking for participants self-reports of their readiness to enter the future academic course of their choice revealed a Corrected Item-Total correlation co-efficient of $.256$, and if deleted would raise the alpha value to $\alpha = .915$ when compared with the other nine items. This score for readiness was below the recommended exclusion point of $.300$ (De Vaus, 2005, p. 184). It appeared that participants' estimation of their own readiness for future study may be a different

variable, and as such was considered separately as the third summary measure Self-efficacy for Readiness for Future Academic Study (SERFAS).

Over the ten questions, participants were asked for their perception of: their academic reading ability; their comprehension of academic vocabulary; and the adequacy of their reading speed over six achievement levels. These achievement levels ranged from being able to achieve 10% of a particular task, such as reading an academic text, through 30%, 50%, 70%, 90% of the task, to being able to accomplish 100% of the task. They recorded their sureness by using either a percentage or a label taken from the prompt continuum reproduced in Figure 3:2. Participants' self-efficacy with regard to the grade they would be awarded in the present bridging programme, and of the grade they would be awarded in the future academic course were measured by the same sureness index for the six grades D, C, B, B+, A and A+. The participants' self-efficacy of their essay writing ability; their spelling accuracy; and their overall academic writing ability was covered by four achievement levels. These ratings were averaged over the six and four achievement levels respectively. For example, if a participant rated him- or herself at 100% for all six achievement levels the total score of 600 was divided by six to give a self-efficacy score of 100%. If a participant had scored him- or herself at 100% for three of the achievement levels and 0% for achieving the remaining three, the total score of 300 divided by six would give a self-efficacy rating of 50%. Further, a participant who scored him- or herself 10% on the first level and 0% on the remaining five achievement levels would receive a score of 1.6, rounded to 2%, for self-efficacy. Participants were also asked for a single percentage rating to reflect their self-efficacy with regard to the likelihood of being selected for their planned future course, and of their readiness for it.

B. Interview

The purpose of the questions in the semi-structured interviews was to collect qualitative data on reasons for, attitudes to, and sources of self-efficacy which would be used to explore: the relationship of self-efficacy beliefs to participants' expectations; definitions of success; the perception of gaps in their personal skills; their perception of benefits from participation in the bridging programme; and the sources of self-efficacy.

The semi-structured interview combines the advantages of the interview-guide approach with open-ended questions, and provides the opportunity for a more relaxed presentation of questions and topics. The question frame ensured the same topics were covered with each interviewee yet being semi-structured, a more natural follow-on from one question to the next was possible. The short closed answers and patterned questions of the sections collecting self-efficacy ratings allowed comparisons with previously collected questionnaire data and was an effective method of collecting data in a time-efficient manner.

There were two interviews: in-course and post-course. The interview schedule is reproduced in Appendix B for the in-course and in Appendix C for the post-course interviews. The purpose of the initial in-course interview was to gain a deeper understanding of the decision-making associated with entering a bridging programme and attitudes towards the programme while undertaking it. It also enabled the recording of individual experiences and made contacts with people whose self-efficacy may have been affected by the programme. The in-course interviews took place during the first

semester and canvassed participants' definition of academic success, their self-perception, and measurement of self-efficacy for the skills required in academic study. They also captured participants' thoughts, experiences and self-efficacy on their application to future mainstream courses, and the possible sources of their self-efficacy for attending the bridging programme.

The purpose of the second interview was to confirm definitions of success and future plans, to collect updated levels of self-efficacy for academic study, and to monitor any change in the self-efficacy expressed by participants. Attitudes to the bridging programme and participants' experiences of it, either after leaving the bridging programme for some participants, or on returning to it for a second semester for others, were also recorded.

The selection of participants for the interviews has been outlined in Section 3.4.2. Thirty participants were interviewed in the first semester, of whom 23 were located for the post-course interviews in the following semester. Contact was made through the bridging programmes, email and telephone. All but one of the 15 who had returned for the second semester of the bridging programme, agreed to participate in the follow-up interview. Eight enrolled in a tertiary course at the same institution. Successful students who may have been enrolled in academic courses at other institutions were not able to be located, with one exception.

A further section of the interview asked participants whether they perceived the bridging programme as helping them increase their capability for further study, and subsequently their self-efficacy for academic study. These were included in both the first and follow-up interviews. The purpose was to gauge participants' attitudes to the learning gained from the bridging programme and to examine if these were a source of self-efficacy for future study. Any changes to self-efficacy as participants moved through the bridging programme experience could be observed by comparing the comments from the first and second interviews.

3.6.4 Academic outcome data

Academic outcomes were recorded by grade results awarded at the end of the semester in the bridging programme, and the outcome of applications by participants for entry into the academic course of their choice.

A. Programme results

The results from the bridging programme can be seen as an assessment of academic literacy by education professionals involved in improving the skills of adults. All students had enrolled in the programme as a way of obtaining the skills needed for academic study. The programme had a system of formal assessments which required both course work and in-course and end-of-course assignments and examinations. Also, the grades given at Level 4 would allow students to be admitted with equivalent status to national secondary school qualifications (Universities New Zealand n.d.). Because certain grades allow entry to tertiary academic programmes their award can be seen as an indicator of an acceptable level of academic literacy. Nearly all participants took at least five courses, most took six and some took as many as eight as part of the bridging programme. The results were given for each course on a 12 point scale from A+ to F. Non-completion of bridging programme courses was recorded as 'NC' and withdrawal from the programme as 'WD'.

The bridging programme courses and results are monitored internally by course lecturers, and externally by academic departments of the institution under an agreement outlined in the course document ([named] Institute of Technology, 2009). Participants consented to the release of their records of achievement from the institution database and permission was obtained from the institution's management to do so.

B. Future course acceptance

Future course acceptance was obtained in a self-reported destination survey of students in the final week of the course. These were then followed up with participants at the beginning of the next semester, through contact details they had supplied. In the destination survey, participants had also agreed to the release of enrolment data from the institution for the upcoming semester and the next two academic years until the expiration of the ethical approval document for the study.

Being accepted into a future course is a measure of academic literacy in that it places bridging-programme students on a similar level as an applicant with an acceptable secondary school qualification. Acceptance into a future course could only be recorded where enrolment was at the same institution as the bridging programme or when a participant personally reported their acceptance at another institution, as happened in one case.

3.6.5 Summary of data gathered

The numbers of respondents varied for each data collection instrument and are recorded on Table 3.1. Full sets of academic literacy and questionnaire data were collected from 53 participants. However all data were appropriately used for comparisons between participants. There were 30 initial in-course interviews and 23 of the interviewees were located for the post-course follow-up interviews.

TABLE 3.1

NUMBER OF PARTICIPANTS BY DATA COLLECTION INSTRUMENT

<u>DEMOGRAPHIC DATA</u>		<i>n</i>
Gender, age, first language, programme level		212
Future course, previous education		181
<u>ACADEMIC LITERACY DATA</u>		<i>n</i>
Writing sample	162	
Reading score	106	
Vocabulary levels test	119	
<u>SELF-EFFICACY DATA</u>		<i>n</i>
Self-efficacy questionnaire		150
Self-efficacy in-course interview		30
Self-efficacy post-course interview		23
<u>OUTCOME DATA</u>		<i>n</i>
End-of-course programme result		212
Known future course acceptance		160

3.7 Data analysis

Quantitative data were analysed statistically. The content of the qualitative sections of the interviews was analysed according to themes emerging from the research questions. Numerical data were stored in Microsoft Excel spreadsheets, interviews in digital .wav files, and transcripts of interviews in Microsoft Word documents. Transcribed interview files were coded and analysed using NVivo 8 to establish nodes to aid analysis. The nodes were: definitions of success; application details; career choices; skills hoped for and obtainable from the bridging programme; readiness for a future academic course; usefulness of the bridging programme; self-efficacy for reading, writing and vocabulary; and the sources of participants' self-efficacy.

Descriptive statistics, correlations and analyses of variance were calculated with the Statistical Package for Social Sciences (SPSS) versions 17 and 19; SPSS was also used to generate tables and graphs for analysis, and graphs for presentation. Tables were prepared using Microsoft Word 2007 while Microsoft Excel 2007 was used to generate three graphs.

All analysis of variance results (ANOVA) used a Levene test to assess equivalence of variances and a significance result greater than $p = 0.5$ led to an assumption that variances were equal (Abu-Bader, 2006). In this report, equivalence of variances accompanying ANOVA results have been tested and although not stated can be assumed equal unless otherwise reported. All significance values were two-tailed and hereafter are not labelled as such.

3.7.1 Demographic data

Quantitative data on gender, age, ethnicity, first language, education experience, current bridging programme level and future course aspirations enabled a statistical description of the sample to be made through measures of central tendency and dispersion. This was done to anchor the results to the context and to ensure that the premises of any generalisations made were documented. The data in statistical form allowed comparisons to be made in relation to academic literacy, self-efficacy, and academic or acceptance outcomes.

Checks were carried out for entry errors. The categorical data were coded in numerical form and frequency distribution graphs were generated to look for modes and skewness. Boxplots were generated to observe outliers. Pearson's chi-squared (χ^2) test of association was used to compare the 212 participants with the 249 who made up the full sample, and independent-samples t -tests and one-way ANOVA were used to test if there were any significant differences in the means of the demographic characteristics between the study participants and those who chose not to participate.

When measuring the overall difference between the observed and expected frequencies by cross-tabulation in Pearson's Chi-squared test, 80% of expected frequencies should have more than 5 cases in each cell (Acton, Millar, Fullerton & Maltby, 2009, p. 150). Consequently, the data for age, ethnicity, educational experience and aspiration, were grouped into categories to enable analysis by chi-squared tests.

Participants were divided into four broad ethnicity categories to match data from the national census (Statistics New Zealand, 2011). Those for age were aligned with the *International Adult Literacy*

Survey, 1993-4 and 1998 (Organization for Economic Co-operation and Development & Statistics Canada, 2000), the 2003 *Adult Literacy and Life Skills Survey* (Organization for Economic Co-operation and Development, 2003), and the international *Learning a Living* survey (Organization for Economic Co-operation and Development, 2005) to make them comparable with international data and to enable them to be generalised more widely. Previous Education data were matched with International Standard Classification of Education categories of the *Learning a Living* survey (Organization for Economic Co-operation and Development, 2005). Future-course aspiration categories were generated from data collected from participants.

The distributions of each set of demographic data were analysed. Links between each demographic element were tested using independent-samples *t*-tests for categories that had two subgroups and one-way ANOVA for those categories with three or more subgroups. The results of these analyses of demographic data are recorded in Chapter 4.

3.7.2 Academic literacy data

Descriptive statistics were calculated for the three measures of academic literacy: the writing task, the reading test and the VLT. Frequency distributions and boxplots giving the median and the upper and lower quartiles were drawn. Normality of distribution was assessed for each by a one-sample Kolmogorov-Smirnov test and a Normal Q-Q plot. The scores for the three elements of academic literacy—writing, reading and vocabulary—were then compared overall and then with demographic subgroup. As scores in the three components had different totals, the standardised Z –scores were calculated into T–scores in order to make meaningful comparisons.

Median scores for each of the seven demographic subcategories were calculated for each component of academic literacy. These were analysed in table form and where the statistical tests showed there were more than two significant results, the tables were presented and subcategories with significant results highlighted for emphasis. The strength and significance of differences were investigated using independent-samples *t*-tests for categories where there were two subgroups and one-way ANOVA with Bonferroni post-hoc tests where there were three subgroups or more. The scores of the three components were compared with each other and the CIAL was constructed.

A. Writing marking scheme

The marking scheme developed by TEC (2008d) was used to allocate writing scores in each of the six LPs of the Write to Communicate strand. Scores could range from zero to 6. For ease of statistical comparison and calculation the levels were given a numeric value. When all requirements of a band were reached the participant scored 10 points. This was used in order to remove decimals from the figures. When competence at some but not all of the writing features of the next higher band of the LP was evident, a half score of 5 points was allocated. For example, a writer able to use a writing vocabulary that is adequate for communicating meaning in everyday tasks such as shopping lists, simple notes, personal statements, and adds detail—for example adjectives—to simple sentences, would be assessed at Band 2 on the Vocabulary LP. A half band score of 5 would be added to give a rating of 25 when the writer uses all of these features and some but not all of the following Band 3 features: using an extended vocabulary of common and specialised words; using words appropriately;

understanding the connections between words for example in collocations. When all three of these third step criteria are met the candidate would be scored at Band 3 (30 points) for the Vocabulary LP. Both presence of the feature and absence of error in its use were the two deciding conditions when rating.

There are six LPs, each with six levels, and each with a potential score of 10. It is possible therefore for each participant to achieve a total score of 360. For ease of calculation, the score out of 360 was multiplied by 1.667 to give a total possible score of 600. This score relates to the levels of the LPs: for example a score of 300 equates to the third LP, a score of 350 indicates the writing exhibits, on average, the elements of the third LP and some but not all of the elements on the fourth LP, and so on.

In the summary statistics both the mean and the median were reported for the following reasons. The mean generally gives an accurate measure of central tendency for data on the interval scale. The median is appropriate when data are on the ordinal scale and is more suitable when outliers are present in the group data (Acton, et al., 2009, p.58). A comparison between mean and median can be used to observe when the distribution of the data is skewed. Summary boxplots related to the median and quartile measurements are also useful for viewing the distribution of data. The documents explaining the LPs (Tertiary Education Commission, 2008c, p. 5) note that the distance between each step on the LP is not necessarily the same and that learners will progress at different stages of development within the steps. For this reason although the scores for the writing can be seen to be interval scale, they may be considered ordinal.

B. Reading marking scheme

The marking frame supplied by NZCER was used to mark the reading assessment. Although questions were of differing complexity, one mark was allocated for each question. There was one problematic question where four yes/no answers were required for one mark. Although it was fair in that all participants were marked in the same way there was no provision for part marks. Only 27% of participants who sat that question answered all four sub-parts correctly, a rate similar to those for other questions. On reflection it would have been preferable to rework the question to align the style of answer required to that of the other questions.

C. Vocabulary marking scheme

The five sections of the VLT were used as estimates of participants' vocabulary size. The mean scores for each section were obtained and a criterion of 86% was set to identify mastery of each section (Read, 2000, p. 121). These data were used to allocate a vocabulary level for each participant. Although the scoring for the VLT was never intended to be aggregated, it commonly is (Read, 2000, p. 118). So, the total number of correct items was used to provide a scale measure for vocabulary ability. These were standardised into T-scores.

D. Composite index of academic literacy (CIAL)

The CIAL was formulated by finding the mean of the standardised scores of the three academic literacy components for each participant. A frequency distribution histogram and boxplot were drawn, and the Kolmogorov-Smirnov statistic calculated. Comparisons with demographic subgroups were

made. Pearson correlations were calculated between each of the elements of the composite index and the index itself. The criterion for rejecting the null hypothesis was set at $\alpha = .05$. The results of these are reported in Chapter 5.

3.7.3 Self-efficacy data

The closed response sections on self-efficacy ratings allowed quantitative analysis of these data from the questionnaire. Cronbach's alpha tests, outlined in Section 3.6.3.A, showed that the questionnaire had internal consistency and can be considered reliable.

The data collected from the perception questionnaire and the Cronbach's alpha coefficients were used to align the results from the ten items into the three summary measures of self-efficacy: SECALS, SEFPAC and SERFAS. The three summary measures were compared separately by demographic sub-categories and with the three academic components of the CIAL and the CIAL itself.

A. Self-efficacy for current academic literacy skills (SECALS)

This summary measure was made up of six items in the questionnaire—participants' self-efficacy for: reading comprehension of academic texts, mastery of academic vocabulary, reading speed, essay writing, spelling and estimated grade scores allocated in the current bridging programme.

B. Self-efficacy for future performance in an academic course (SEFPAC)

This was made up of participants' rating of their chance of acceptance into a future course, self-evaluation of writing performance in a future course, and estimation of the future course grade.

C. Self-efficacy for readiness for future academic study (SERFAS)

The third summary measure was participants' estimation of their own readiness to enter and perform in a planned future course expressed as a percentage.

D. Composite index of self-efficacy (CISE)

A composite index was constructed for each participant, made up of the individual scores of nine elements used in two of the summary measures: SECALS and SEFPAC. SERFAS which had an alpha value of $\alpha = .256$ was not included with the other items as calculations showed that it would reduce the Cronbach's alpha co-efficient if included with the other nine. The results of the comparison of the CISE with the academic literacy and demographic factors are reported in Chapter 6.

3.7.4 Interview data

Interviews were analysed with the purpose of finding answers to the research questions on the relationship of self-efficacy beliefs to participants' expectations and definitions of success, the perception of gaps in their personal skills, whether self-efficacy beliefs influenced their perception of benefits of participation in the bridging programme, and the extent of the range of the sources of participants' self-efficacy.

The qualitative data provided detail on reasons, attitudes and the sources of self-efficacy which helped explain and expand the quantitative data. Following transcription, the interviews were analysed question by question using the NVivo8 software package. Nodes were established on each of the

questions answered and coding of individual responses was undertaken. A thematic analysis of participants' answers was made and summaries of individuals' responses were constructed by grouping data for each question. Through the process of data reduction, major themes were identified: participants' views on their perception of success and their involvement with further study; the perceived gaps in personal skills and areas of benefit gained from the bridging programme; and the different groups of people and experiences which participants felt had influenced their self-efficacy to undertake and persist with the bridging course they were currently enrolled in, and their future goal.

These data were also compared with demographic statistics, measurements of academic literacy and a comparison between interviewees' responses in the follow-up interviews and their self-efficacy scores gained from the questionnaire. The results are reported in Chapter 8.

3.7.5 Academic outcome data

The outcome data of end-of-bridging-programme grade results and information on participants' enrolment in courses within the institution were collected from the institute's student database. Not all participants continued to enrol in future courses and in these cases reporting relied on participants providing the data themselves.

A. Programme results

Most of the bridging programme courses allocated letter grades for a final course grade covering coursework, in-class assessments and examinations. The grades ranged with pluses and minuses for pass grades A, B, and C. Fail grades were single letters without embellishments, D, E and F. All of these grades at the time of the study were grade equivalents of a final percentage total. Some courses based solely on coursework offered Merit, Pass or Fail. Non-completion of bridging programme courses was recorded as 'NC' and withdrawal from the programme as 'WD'.

For this study, participants were given a grade score average (GSA) for their bridging programme. Letter grades were transformed into numerical values with 12 = A+, 11 = A, and so on through to C = 5, and C- = 4. The fail grades were given 3, 2 or 1. An NC received 0. WDs were not counted in the total and were as if the participant had not enrolled. Coursework graded at Pass or Merit was not given a numerical equivalent and was not included in the calculation. To calculate the GSA the numerical total was divided by the number of letter-assessed courses including any that were NC.

B. Future course acceptance

Acceptance into a future course of the participant's choice was considered a successful outcome for the semester as participants in the study had enrolled in the bridging programme with that objective. For some, this success was attained at the end of the semester. Nearly half of the participants in the study had already committed themselves to returning to the bridging programme for the next semester and had plans to apply for entry to their future course at the end of the following semester. In these cases gaining entry after the further bridging programme semester was considered successful. A small number took three or four semesters before entry was attained. Although this was not what had been planned by these participants, gaining entry into the future course of their choice, even after a delay, was considered a success.

Participants returning overseas or gaining employment in New Zealand were considered neutral outcomes and excluded from the analysis as this study related to preparation for further study. A failed bridging-programme course followed by an unknown destination was considered a negative outcome. Analysis was undertaken of the participants who passed the bridging programme but whose future academic destination after that was unknown.

Descriptive statistics were calculated for all participants in each of the three groups: those with the positive outcomes of acceptance to a future course; those who failed the bridging programme; and those who passed the bridging programme but who had unknown destinations. Frequency distributions and boxplots giving the upper and lower quartiles were drawn. Normality of distribution was assessed by a one-sample Kolmogorov-Smirnov test and a Normal Q-Q plot.

Median scores for each of the seven demographic subcategories were calculated for the two groups (successful and unsuccessful). These were analysed in table form, and presented and highlighted to emphasis subcategories where there were more than two statistically significant differences reported. Independent-samples *t*-tests and one-way ANOVA with Bonferroni post-hoc tests were used to compare the means between the groups. These results are reported in Chapter 7.

3.8 Conclusion

Each data collection instrument was designed to answer specific research questions. The purpose of this chapter has been to detail their design, construction and analysis. Matching participants' academic literacy with their perception of their self-efficacy for academic study; their bridging-programme results; and their success in being accepted for their future course allowed a comparison to be made that would establish 'convergence, inconsistency or contradiction' (Denzin, 1978, p. 14). The chapter also outlined how academic literacy and self-efficacy have been examined in the role they play in participants' academic results and acceptance into future academic courses. Many of the relationships have been tested statistically, while integration of data from different data types has provided greater confidence that the final judgements are tenable (Cohen, et al., 2007, p. 469).

The results of each data type are reported in Chapters 4 to 8. The findings from each chapter which answer the research questions are discussed in Chapter 9.

Chapter 4. DEMOGRAPHIC DATA ANALYSIS

4.1 Introduction

This chapter describes the demographic and experiential data collected in this study. Three items of demographic data were collected: gender, age, and ethnicity; and two items of experiential data: first language and previous educational experience. These variables, together with the placement of participants in levels in the current bridging programme and the planned future course enrolment for each student constituted the seven items of the personal data survey. The term 'demographic' was used loosely to apply to all seven variables. A description of the variables in the sample was given and then associations between each were made.

The purpose was to collect accurate demographic data in order to anchor the results of the study to the context and ensure that the premises of any generalisations made were clearly documented. The data are used in later chapters in the investigation of the extent to which participants' backgrounds influenced the levels of academic literacy, self-efficacy beliefs and attitudes, and outcomes of individuals as members of particular groups. The data were also useful in analysing the fit of Benseman and Sutton's (2008) description of groups within the community who were commonly enrolled in bridging programmes.

4.2 Validity of participant volunteers

There were 249 members of the bridging programme under study. The first task was to compare the 212 who agreed to participate in the study with the 37 undertaking similar courses who chose not to. The people who chose not to be involved were not significantly different from the 212 participants who did. This was confirmed by comparing the means of the two groups across the seven demographic categories using independent-samples *t*-tests. No results returned significant values below the $p = .05$ level.

As already noted in Chapter 3 while the 30 interview participants were generally similar to the whole sample, New Zealand Europeans, and speakers of English as a first language were over-represented and the proportion of those belonging to the oldest age group, 46 – 65 years, was twice that in the whole sample. The percentages of gender, ethnicity, first language and age are presented in Table 4.1.

TABLE 4.1
PROPORTION OF THE PARTICIPANTS BY GENDER, ETHNICITY, FIRST LANGUAGE AND AGE.

Demographic Group	Potential Cohort		Participant Sample		Interview Sample	
	<i>n</i> = 249	% of 249	<i>n</i> = 212	% of 212	<i>n</i> = 30	% of 30
Gender						
Female	178	71%	157	74%	21	70%
Male	71	29%	55	26%	9	30%
Ethnic Group						
NZ European	40	16%	31	15%	8	27%
NZ Māori	46	19%	43	20%	7	23%
Pasifika	75	30%	66	31%	9	30%
Other	85	34%	72	34%	6	20%
not stated	3	1%	0	-	0	-
First Language						
Other than English	118	47%	113	53%	9	30%
English	114	46%	99	47%	21	70%
not stated	17	7%	0	-	0	-
Age Group						
16-19 years	89	36%	73	34%	8	27%
20-25 years	76	31%	60	28%	7	23%
26-45 years	65	26%	62	30%	10	33%
46-65 years	19	8%	17	8%	5	17%

4.3 Gender

Approximately three-quarters of the 212 participants were female (*n* = 157). The mean age for males (23.1 years), was lower than for females (27.7 years).

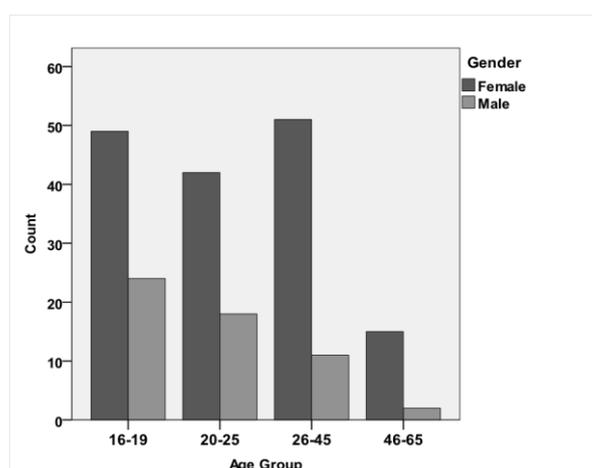


FIGURE 4.1 GENDER DISTRIBUTION BY AGE GROUP

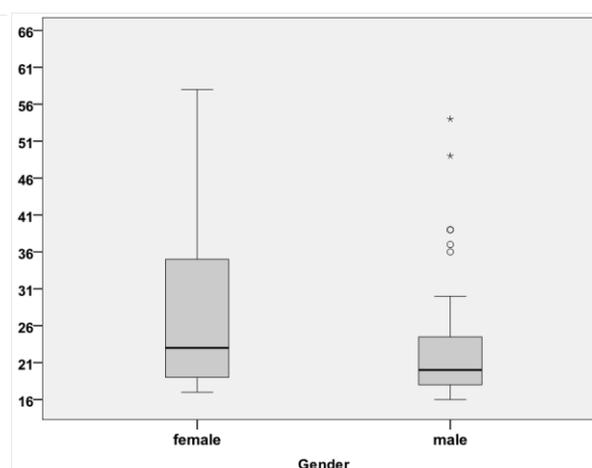


FIGURE 4.2 AGE DISTRIBUTION BY GENDER

The bar chart (Figure 4.1) clearly illustrates the predominance of females and the numbers of males declining by age group. The small numbers of males in the oldest age group are identified as outliers in the boxplot in Figure 4.2. The boxplot graphs the median for males at 20 years, three years younger than for females, and the wider inter-quartile range for females.

There were no major differences in ethnicity distribution by gender, with the exception of groups from Cambodia and Samoa, which had more males than females. First-language and previous education experience were not differentiated by gender.

A greater gender differentiation was observed in choice of future courses. This was tested with Pearson's chi-squared test where the results showed a significant association between these two variables ($\chi^2_{(df=7)} = 84.303$; $p < .001$). The results of the 2×8 contingency table reveal that 94% of the nursing applicants, 92% of the aspiring teachers, and all but one of the eight prospective social workers were female. Males were more likely to opt for business and management courses, the police or defence forces, a yet-to-be-specified university course, or courses in engineering, information and communication technology, laboratory science, carpentry, automotive, performing arts or sport. All the participants hoping to enter the defence or police force were male. Aspirations for future course then were moderately differentiated along gender lines. A Cramer's V co-efficient of $V = .637$, $p < .001$ indicated that gender explains 40.5% of the variance in future course choice.

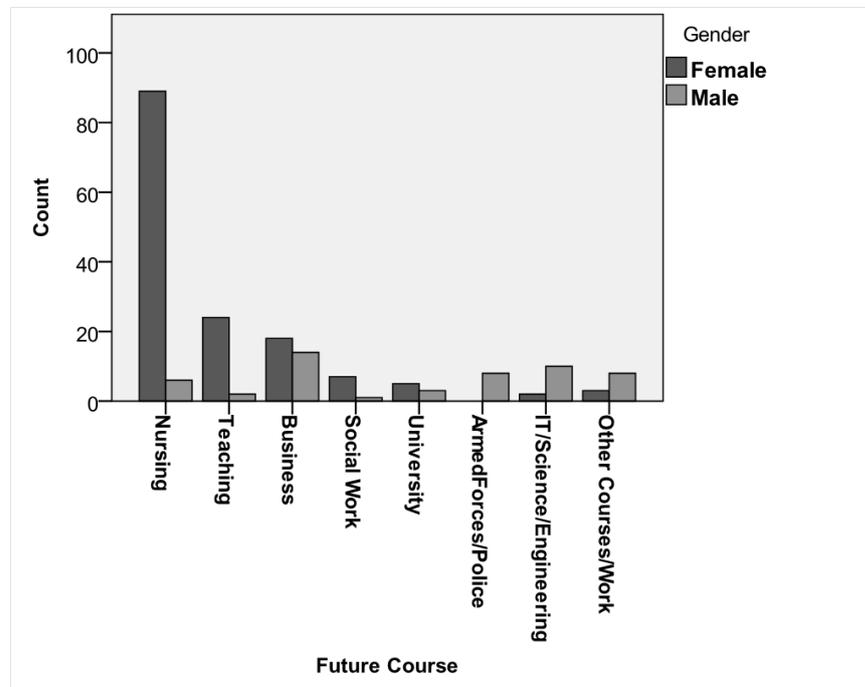


FIGURE 4.3 FUTURE COURSE CATEGORY NUMBERS BY GENDER [n = 184]

4.4 Age group

The age variable was grouped initially into the three ordinal categories used in the 2003 *Adult Literacy and Life Skills Survey* (Organization for Economic Co-operation and Development, 2003), the *International Adult Literacy Survey*, 1993-4 and 1998 (Organization for Economic Co-operation and Development & Statistics Canada, 2000) and the *Learning a Living* survey. At the time of the study, all students were required by law to be at least 16 years of age to enrol in a tertiary institution. The three categories are ages 16 to 25 years, 26 to 45 years and 46 to 65 years.

The main reason for grouping the age data was that actual physical age, as a continuous variable, year by year, is less important than age as an indicator of life stage. Typical experiences of different

stages in life for these age groups are leaving secondary schooling, transition to career training, gaining employment, marriage and/or family, the lessening of family commitments as children enter the work force, and retirement. For this study the distribution of participants by age was positively skewed, with 133 (63%) of the participants aged between 16 to 25 years. A further 62 (29%) were aged between 26 and 45, with the remaining 17 (8%) being between 46 and 65. There were no participants over the age of 65, the age of superannuation benefit entitlement in New Zealand.

In order to capture possible differences in the largest group, the 16 to 25 year olds, I decided to divide it into two subcategories: 16 – 19 years and 20 -25 years. The split was made on account of the fact that the minimum legal age for leaving compulsory education in New Zealand is 16 years, and most students who complete secondary school in New Zealand often do so in their nineteenth year. Seventy-eight percent of participants who were aged 16 to 19 were in their first post-secondary year. Eighteen-year-olds (n = 28) and 19-year-olds (n = 34), dominated this age group. The age groupings used in this study, therefore, were 16 to 19 years, 20 to 25 years, 26 to 45 years, and 46 to 65 years. The distribution of the participants by age group is given in Table 4.2 and Figures 4.4 and 4.5.

TABLE 4.2
DISTRIBUTION BY AGE GROUP

Age Groups	16-19 years	20-25 years	26-45 years	26-65 years
(n = 212)	73	60	62	17
OECD categories	63%		29%	8%
Study subgroups	35%	28%	29%	8%

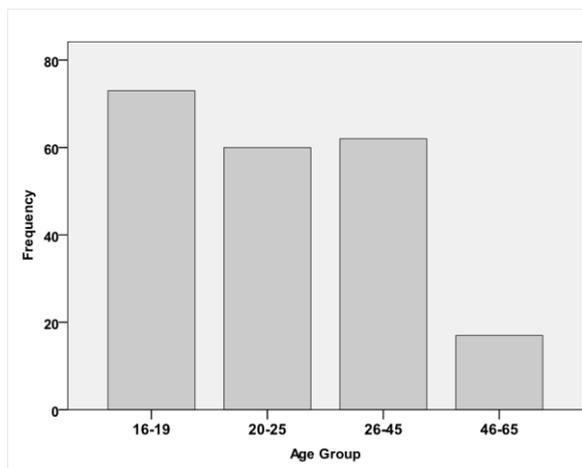


FIGURE 4.4 DISTRIBUTION BY AGE GROUP

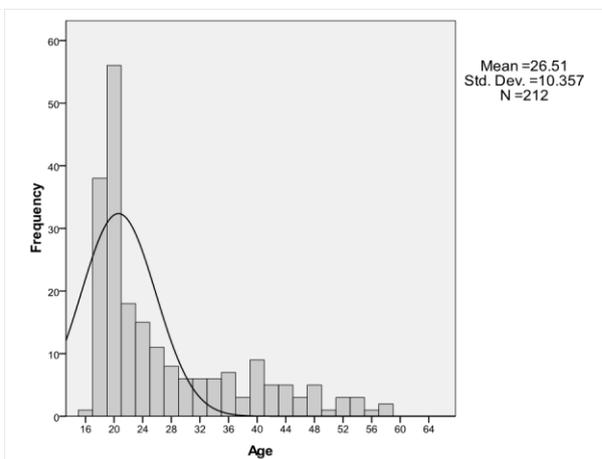


FIGURE 4.5 DISTRIBUTION BY AGE

Increasing age may affect academic literacy and self-efficacy negatively or positively. A reduction in cognitive performance, or an individual's perception of a reduction in it, can have a negative effect of self-efficacy. Aging effects are seen by some to result from a decline in the cognitive mechanics of attention focus, reasoning ability, operational and cognitive speed, memory capacity and spatial cognition (Smith and Marsiske, 1997). Many older adults report difficulty in remembering and being able to 'get their head around' a concept or topic. Age, though, can also be positive through what is

described as the 'practice effect'. Researchers in the late 1980s and 1990s suggested that skills gained and practised through life experiences are transferable and accumulative (Baltes, 1987; Horn & Hofer, 1992; Marsiske & Smith, 1998; Schaie, 1994). Participants' personal beliefs, either that learning has become more difficult with age, or that life's experiences provide a positive edge to learning, may affect self-efficacy beliefs.

The youngest age group of seventy-three 16-19 year olds were those that could be considered recent school leavers. Over half (n = 44) had been to the upper levels of secondary school but only five had completed the final year. All five were females who were speakers of a first language other than English. Of the 21 of this youngest group who did not complete national qualifications as listed on the New Zealand Qualifications Framework (NZQF) at Level 2 (New Zealand Qualifications Authority, n.d.), nine had been either unemployed or in casual part-time employment since leaving school. The other 12 had recently migrated to New Zealand. The remaining eight had undertaken a post-secondary course before entering the bridging programme. For six participants this was their second semester in a course, three in a previous semester of the bridging programme.

4.5 Ethnic group

In an open question, participants identified themselves as belonging to one or more of 18 different ethnic groups. Individuals with dual or multiple ethnicities clearly identified their main ethnicity which was used for categorisation. The largest single group, numbering 43, was New Zealand Māori, 20% of the participants. The second largest group were the 31 New Zealand Europeans (15%). Pasifika peoples included Samoan (n = 28, 13%), Tongan (n = 19, 9%), Cook Islands Māori (n = 15, 7%), indigenous Fijians (n = 3, 1.5%) and Niuean (n = 1, 0.5%). The remaining 72 participants (34%), came from 14 other countries, with the largest groups being people from China (n = 20, 9%) and India (n = 19, 9%).

I divided the participants into one of four ethnic groups: New Zealand European, New Zealand Māori, Pasifika peoples, and Other Ethnicities. Table 4.3 shows the ethnic composition of the sample with percentage of each group shown.

TABLE 4.3
DISTRIBUTION BY ETHNICITY

NZ European		NZ Māori		Pasifika peoples		Other Ethnicities			
number	%	number	%	number	%	number	%		
31	14.6	43	20.3	<u>All Pasifika</u>	66	31.1	<u>all Other</u>	72	34.0
				Samoan	28	13.2	Chinese	20	9.4
				Tongan	19	8.9	Indian	19	8.9
				Cook Islander	15	7.1	Fiji Indian	13	6.1
				Other Pasifika	4	1.9	Other Asian	14	6.7
							Others	6	2.9

Examining the distribution of ethnicity by age group, Pasifika peoples were spread fairly evenly across the four age bands. People belonging to the Other Ethnicities group were over-represented in the youngest age groups (16-19), and under-represented in the 26-45 age group. By contrast, New Zealand Māori had nearly twice the number in the 26-45 age group as could be statistically expected, and less than half the expected numbers in the 16-19 age group. In Table 4.4, under-represented age groups by ethnicity are shaded grey, and over-representations are boxed. The expected numbers are derived statistically as the number that would be in each age category if each ethnic group was distributed evenly by age. The distribution can be seen graphically in Figure 4.6.

TABLE 4.4

CONTINGENCY TABLE BY AGE AND ETHNICITY

Age		NZ European	NZ Māori	Pasifika	Other	TOTAL
16-19 years	Count	13	6	22	32	73
	Expected	10.3	14.8	22.7	25.1	73.0
20-25 years	Count	7	10	21	22	60
	Expected	8.5	12.2	18.7	20.7	60.0
26-45 years	Count	9	23	17	13	62
	Expected	8.8	12.6	19.3	21.3	62.0
46-65 years	Count	1	4	6	6	17
	Expected	2.4	3.4	5.3	5.9	17.0
TOTAL		30	43	66	73	212

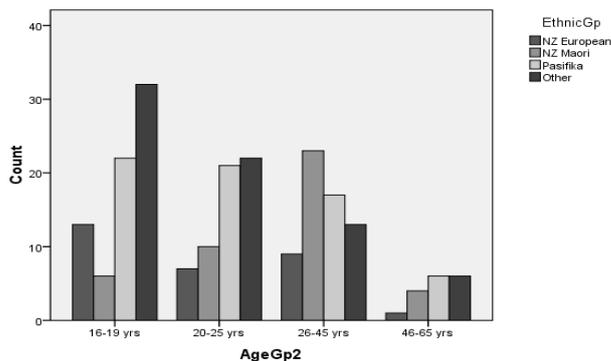


FIGURE 4.6 DISTRIBUTION BY AGE GROUP AND ETHNICITY

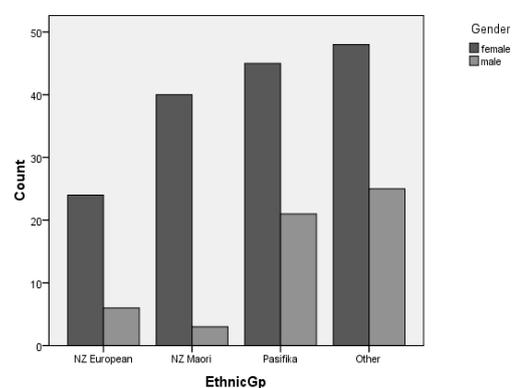


FIGURE 4.7 DISTRIBUTION BY ETHNICITY AND GENDER

Proportionally, there were markedly less New Zealand Māori males than Māori females. A 2 × 4 contingency table produced to examine the relationship between gender and ethnicity and a chi-

squared test showed a significant association between the two variables ($\chi^2_{(df = 3)} = 12.923$; $p < .005$) which is reflected in the distribution shown in Figure 4.7.

4.6 First language

Twenty-two first languages were identified by participants, more than the number of ethnicities. English was the most common first language for New Zealand-born Māori and European participants ($n_{\text{Māori}} = 36$; $n_{\text{European}} = 30$). The next most common were the languages of the Pacific Islands ($n_{\text{Samoan}} = 17$; $n_{\text{Tongan}} = 15$; $n_{\text{Cook Is}} = 10$). The generic label of Chinese ($n = 19$) were represented by Mandarin, and Cantonese speakers; and those of the Indian subcontinent ($n = 26$) by Punjabi, Gujarati and Hindi for ethnic Indians from India, and Hindi from Fiji.

As the medium of instruction for mainstream academic courses in New Zealand and for this bridging course is English, the study grouped the first languages of participants as English, and other than English. This was done to investigate if learning in another language was a possible variable in academic literacy and self-efficacy as had been identified in the literature. A high proportion of the 14 students enrolled in the three-semester Introduction to Foundation programme which provides the most academic support, had a first language other than English (observed $n = 12$: expected $n = 7.4$, $p < 0.05$).

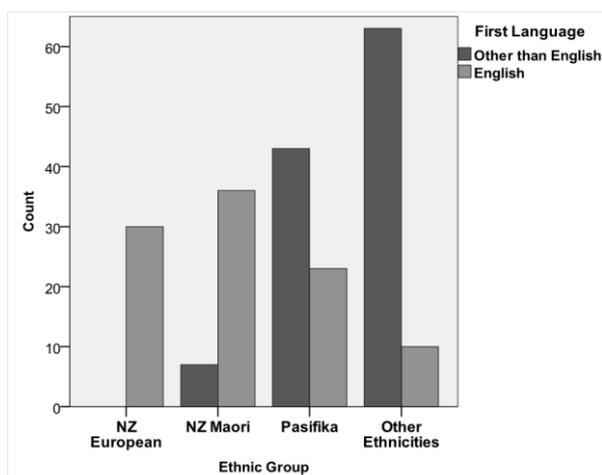


FIGURE 4.8 FIRST LANGUAGE BY ETHNICITY

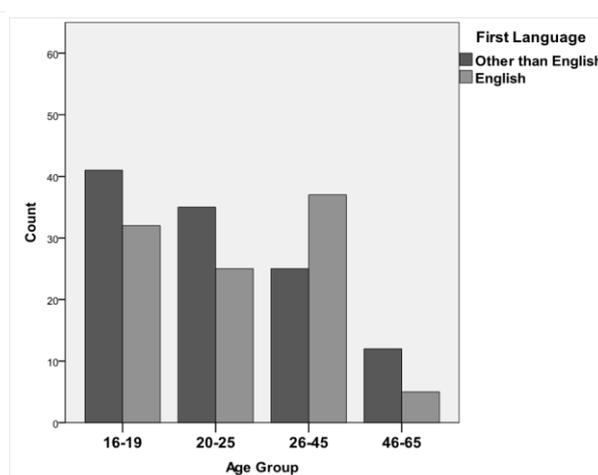


FIGURE 4.9 FIRST LANGUAGE BY AGE GROUP

Although it is noteworthy that the speakers of English as a first language ($n = 99$) were outnumbered by those who had a first language other than English ($n = 113$) it was no surprise that there was a marked differentiation in the distribution. Two-thirds of Pasifika people and five-sixths of those of other ethnicities had a first language other than English. One-sixth of Māori participants identified Te Reo as their first language. All New Zealand Europeans and the remaining five-sixths of New Zealand Māori spoke English as their first language. The males in the sample were marginally over-represented among the speakers of a language other than English. Of the 113 who had a first language other than English, all but the seven Te Reo Māori speakers were migrants. Twenty-one of the 23 Pasifika participants who had English as their first language, came from households where the main language was one other than English.

The results of the chi-squared test ($\chi^2_{(df=3)(n=212)} = 93.582; p < .001$) showed that first language spoken and ethnicity are significantly related in the sample. A Cramer's co-efficient of $V_{(df=3)} = .644, p < .001$ indicates that ethnicity accounted for 44.0% of the variance in first language spoken.

4.7 Previous education experience

Data on previous education was supplied by 200 of the 212 participants. The educational groupings for the study followed the International Standard Classification of Education (ISCED) used by international agencies. It was developed for the United Nations in 1997 and revised in 2006 (United Nations Educational, Scientific and Cultural Organization, 2006). The 2011 revision of the classification (United National Educational, Scientific and Cultural Organization, 2011) did not affect the results of this survey because of the small number who had tertiary qualifications. The international levels range from zero (no formal education), to Level 1 (primary), to Level 6 (postgraduate research degree at tertiary level. The levels represented by the participants in this study were lower secondary, Level 2 (n = 60), Level 3, upper secondary (n = 100), Level 4, post-secondary (n = 35) and under-graduate /first tertiary degree, Level 5 (n = 5).

Level 2, the lower secondary level covers the three years of education after the six primary years. Education at this level concentrates on basic learning skills with the purpose of either entering further secondary education or of entering the labour market after vocational training. In this study 30% of participants who declared their previous education level were at Level 2.

Students enter Level 3 (the upper secondary level) typically at 15-16 years of age. In many countries national examinations exist to provide successful students with a credential to enter either tertiary education directly, or vocational training. The content of the curriculum at this level is typically more theoretical than the lower levels and is usually taught by specialist subject teachers (United Nations Educational, Scientific and Cultural Organization, 2006). Of the participants in this study, 50% had completed some or all upper secondary education and this was their first venture into post-secondary education, giving 80% of the students with previous education experience at Level 2 or 3. Of the 100 participants at Level 3, only 16 had completed the final year of secondary education.

Level 4 programmes are described as post-secondary. Programmes and courses at this level are intended to prepare students either for studies at tertiary level or vocational courses designed to train students for the labour force without giving access to tertiary education. Courses at this level cater either for those who did not finish Level 3; those who did not meet the requirements of entry to an undergraduate programme; or those who did complete Level 3 but who did not follow a curriculum which would allow entry at tertiary Level 5 in a course of the student's choice. Pre-degree foundation programmes are a common example of courses at this level and the one-semester bridging programme in this study is at Level 4. Although the programmes can be expected to be more specialised and more complex than Level 3 programmes, the UNESCO Institute of Statistics describes Foundation Studies programmes as post-secondary non-tertiary. These courses run for between six months and two years. Students attending them are typically older (United Nations Educational, Scientific and Cultural Organization, 2006). Thirty-five participants (17.5%) in the present study had enrolled in certificate level or foundation courses before entering the bridging course.

A further five participants (2.5%) in the study had completed a tertiary degree or diploma, all of them overseas. The first level of tertiary study encompasses diploma and degree courses of at least 2 years duration covering theoretical-based subjects or practical/technical skills requiring a theoretical base for entry into specific high level occupations. All five had a language other than English as their first language and all had attended specialised English language classes in New Zealand in the year prior to embarking on this bridging programme.

4.8 Programme level

The foundation-bridging-programme in this study arranged students into three broad programmes. The criteria for placement were based on a pre-course enrolment test and interview. The shortest programme was the 18-week, one-semester Advanced Foundation programme. The programme was at a standard that is now equivalent to Level 4 on the NZQF established in July 2010 (New Zealand Qualifications Authority, n.d.). One hundred of the study participants were in the Advanced Foundation programme. A further 98 students were enrolled in the two-semester Level 3 Foundation programme. There was one class of 14 students who were recognised as needing extra academic support beyond that provided in the Level 3 Foundation programme and these students were enrolled into the three-semester Level 2 Introduction to Foundation programme. Eighty-six percent (12/14) of this introductory class were speakers of a first language other than English, and nine of the 14 were male.

Although for the majority of the participants there was no significant relationship between previous education and foundation course placement, of the five participants who had previous tertiary education experience at ISCED Level 5, four were placed in the two-semester course and the other in the one-semester course. As the placement into class level was based on an initial placement test, the four of these tertiary qualified participants must not have been able to perform in English at an academic level high enough to warrant placement in the Level 4 programme.

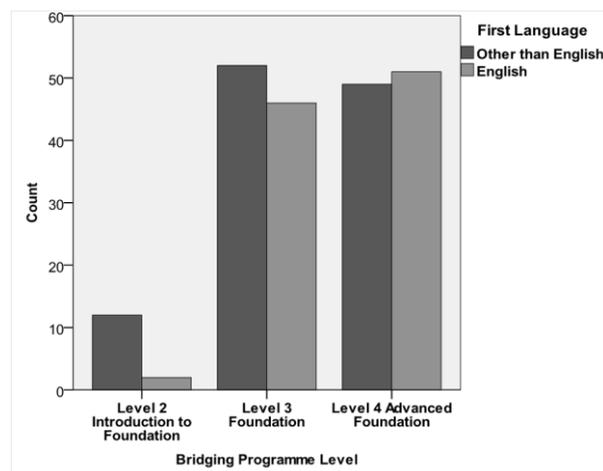


FIGURE 4.10 PROGRAMME LEVEL BY FIRST LANGUAGE

With the exception of the Introduction to Foundation class, participants with English as a first language and those with a first language other than English were spread fairly evenly over both the Level 3 Foundation and the Level 4 Advanced Foundation.

4.9 Future course

Twenty different future courses were nominated by 200 of the participants, with 12 not expressing a future plan at the time of the data collection or throughout the study time-frame. Eleven of the 200 had a future plan involving, work, returning overseas, or a vocational trade such as automotive, carpentry, hair and beauty, or performing arts. A small group of five went on to Level 2, 3 or 4 certificate programmes which would be considered pre-degree post-secondary programmes. The remaining 184 participants had plans that involved future study of courses at Level 5 on the ISCED, and as such could be categorised as academic tertiary courses. The largest group by far were the prospective nurses ($n = 95$) who accounted for 50.3% of the choices expressed. The remainder were grouped into broad categories: business ($n = 32$), which included business studies, management, logistics, and tourism diplomas and degrees; primary teaching, and early childhood education ($n = 26$); electrical and mechanical engineering, information and communication technology, and laboratory science ($n = 12$); social work ($n = 8$); the police or defence force ($n = 8$); and unspecified university courses ($n = 8$).

As mentioned, there is a significant relationship between gender and choice of future course. For most participants it appeared that previous education level was not related to future course choice. The only minor clusters were with age and ethnicity. Younger participants (16-19 and 20-25) were the only participants who sought a career in the police or defence force, in contrast to social work where participants from the older age categories (26-45 and 46-65) preferred this occupation. Future course choice by ethnic group reveals that there was a strong preference by Māori for nursing (observed $n = 33$; expected $n = 19.6$). Māori however were not well represented in teaching (observed $n = 2$; expected $n = 5.7$).

4.10 Summary

Chi-squared tests of association were used to identify relationships in the categorical data between gender, age, ethnicity, first language, educational experience, current bridging-programme class level, and future plan. The tests showed that there was a strong statistical relationship between ethnicity and first language, and a moderate relationship between gender and career preference.

There was a weak relationship between gender and ethnicity, and gender and current foundation class for the lowest class level. The 28 demographic subcategories have been used in further analysis in later chapters in the measurement of academic literacy, self-efficacy beliefs and in the outcome data for the bridging programme and acceptance into future courses.

All of Benseman's (2008) groups were identified and represented in the present study: school leavers under the age of 20 without sufficient secondary qualifications; migrants from non-English-speaking backgrounds; participants who have a first language other than English; those who have a disrupted educational experience; and older participants returning to education.

Chapter 5. ACADEMIC LITERACY DATA ANALYSIS

5.1 Introduction

This chapter describes the data collected on the levels of academic literacy exhibited by participants. Writing samples, reading comprehension test scores, and vocabulary level measurements were used to assess academic literacy. The purpose of these quantitative measurements was firstly to examine the role of writing, reading, and vocabulary as individual components and then to construct a composite index of academic literacy (CIAL). A detailed analysis of each of the three components is given and the data collected are described by summary descriptive statistics, before being compared with the demographic data. The rationale for and description of the construction of the CIAL is then given.

The purpose of comparing the academic literacy components and the CIAL to the demographic data is to investigate whether certain aspects of participants' backgrounds influence levels of academic literacy. The three components and the CIAL were collected so that comparisons could be made in later chapters with self-efficacy data, participants' academic performance in the bridging programme, and the result of their application to enter future academic courses.

5.2 Writing

The first component of academic literacy examined was writing. Writing samples were collected four months into the programme. These were assessed using the Write to Communicate strand of the Learning Progressions (LPs) for Adult Literacy, outlined in Chapter 3. The strand has six LPs: Purpose and Audience; Spelling; Vocabulary; Language and Text Features; Planning and Composing; and Revising and Editing. Each LP has six levels.

5.2.1 Writing assessment

A preliminary writing task was undertaken at the beginning of the programme to familiarise participants with the type of writing that would be required later in the semester. The main writing task was collected near the end of the semester as a practice activity before sitting a similar task for the final writing assessment for the Communication Studies course of the bridging programme. From the 212 participants, 160 writing tasks were collected. The 52 participants who did not complete the writing assessment included the seven who had had enrolment difficulties at the beginning of the semester, and 27 who failed the course and left the institute, destination unknown. The latter group and the remaining 18 came from a mix of class and programme levels and varied by gender, ethnicity and first language.

The frequency distribution of the marks for these 160 writing tasks is shown in Figure 5.1. The marking scheme and marks allocation procedure were outlined in Chapter 3, Section 3.7.2.A. The total score possible was 600. The median of 325, represented the production of writing features at Level 3. The minimum score of 142, representing writing at the first level with some but not all of the features of the second level, was the only outlier. The minimum score, the lower quartile of 277, the median, the upper quartile at 365 and the maximum score of 458 are depicted in the boxplot in Figure 5.2. A one-

sample Kolmogorov-Smirnov value ($Z_{(df = 160)} = .570, p = .901$) confirmed the normal distribution and justified the use of parametric tests in statistical analyses for these data.

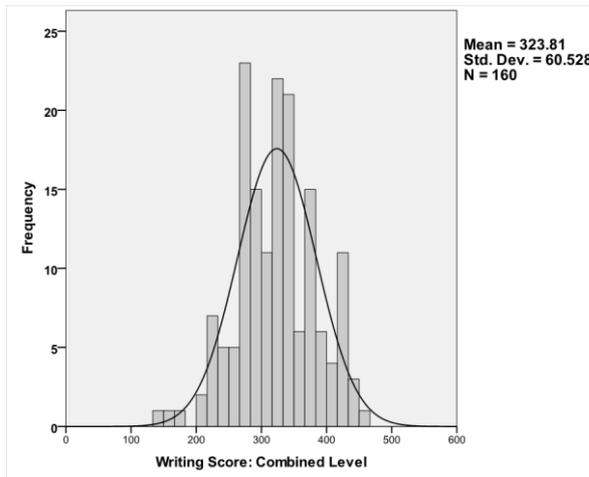


FIGURE 5.1 FREQUENCY DISTRIBUTION: WRITING TASK

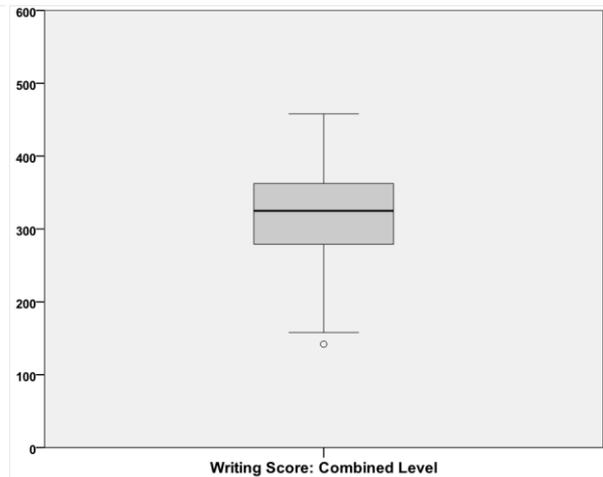


FIGURE 5.2 BOXPLOT: WRITING TASK

The mean was 323 with a standard deviation of 60. The closeness of the median and the mean indicates that the distribution is not particularly skewed (Fisher's statistic = $-.141$). The range of 316 represented three levels of the LP as outlined in Chapter 3. The inter-quartile range of 88 represented nearly one band level and was not large, with a slightly greater concentration of scores below the median.

A. Writing assessment by demographic group

The mean scores for the writing task were analysed in terms of the seven demographic factors of gender, age, ethnicity, first language, previous education, current bridging programme level, and future course plan in order to evaluate any differences which could indicate an influence on academic literacy and how these might be relevant to it.

To compare the mean scores accurately, independent-samples *t*-tests were used for gender and first language when the nominal category had two groups, and one-way ANOVA for the other five categories when the nominal group had more than two subcategories. The mean scores for each demographic and experiential subcategory are given in Table 5.1. The five subcategories with significantly different mean scores are highlighted and the values bolded.

TABLE 5.1

WRITING TASK: MEDIAN SCORES BY DEMOGRAPHIC GROUPS

	Mean	n		Mean	n
GENDER			AGE GROUPS		
Female	335	122	16-19 year olds	332	51
Male	294	38	20-25 year olds	331	48
ETHNICITY			26-45 year olds	318	46
NZ European	342	22	46-65 year olds	306	15
NZ Māori	336	32	FIRST LANGUAGE		
Pasifika	332	48	Other than English	307	88
Other Ethnicity	306	58	English	347	72
EDUCATION			FUTURE COURSE		
Lower Secondary	309	41	Nursing	337	74
Upper Secondary	341	73	Teaching	332	23
Post-secondary	336	22	Business	327	20
Tertiary	276	5	Social Work	301	8
COURSE LEVEL			University	304	8
Level 2 Introduction	226	12	Armed Forces / Police	336	5
Level 3 Foundation	314	72	Engineering/Computing	276	6
Level 4 Advanced	350	76	Other Courses	250	7

An independent-samples *t*-test showed that there was a significant difference in the writing production between males and females ($t_{(df = 158)} = 3.799, p < .001$). In this study, female participants showed significantly more elements of writing at a higher level, with a mean of 335—nearly a half-band (41 points)—higher than the mean of 294 for the males.

The range of writing performance displayed by males was greater (SD = 63.741) than the females (SD = 55.686). The boxplot in Figure 5.3, shows a comparison between the summary measures of median, upper and lower quartile, reasonable upper and lower boundaries and outliers and illustrates the significantly better performance of females for writing.

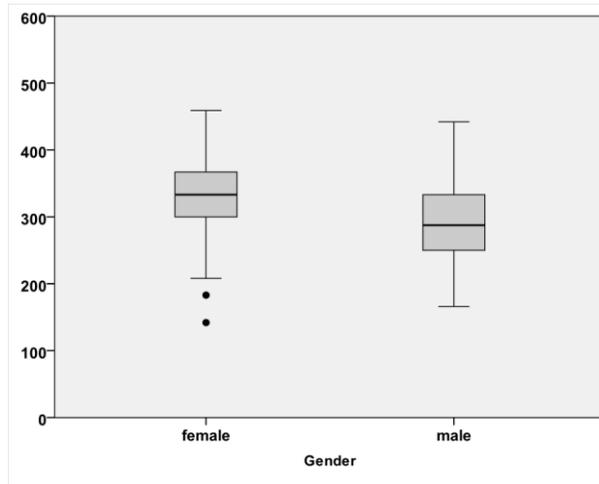


FIGURE 5.3 WRITING TASK LEVEL SCORE BY GENDER

There were no significant differences between the means of the writing level scores of any of the four age groups ($F_{(df = 3, 156)} = 1.079, p < .360$) when analysed by a one-way ANOVA. Although the 46-65 year-olds had a somewhat lower mean than the other age groups, the difference was not statistically significant.

A one-way ANOVA showed that there was a slight statistically significant difference between at least two of the ethnicity groups ($F_{(df = 3, 156)} = 3.337, p < .021$). However, the Bonferroni post-hoc test failed to reveal any significant difference at the $p < 0.05$ level. The largest difference was between the Other Ethnicities group, with a mean of 306, and the New Zealand European group, with a mean of 343 ($MD = 39.911, p = .079$) and was not statistically significant.

There was a significant difference in the writing produced by participants who had a first language other than English compared to native speakers of English ($t_{(df = 158)} = -4.526, p < .001$). The mean score of the writing of native English speakers was 40 writing points higher. This is graphically illustrated in the boxplot (see Figure 5.4). The median for the speakers of English as a first language was above the upper quartile for the speakers of languages other than English.

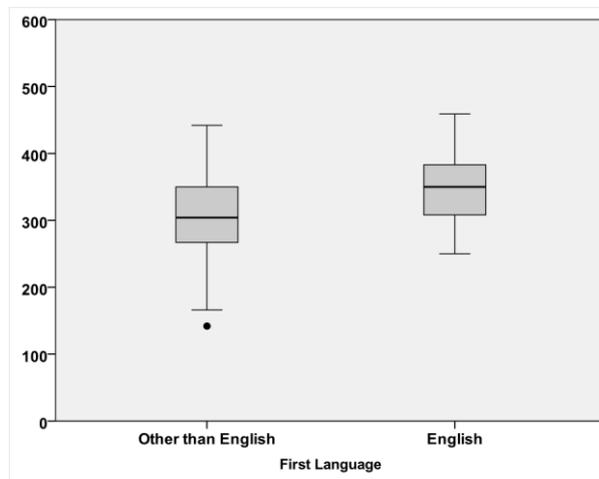


FIGURE 5.4 WRITING TASK LEVEL SCORE BY FIRST LANGUAGE

The one-way ANOVA suggested a potentially significant difference in the writing level scores of at least one of the groups categorised by previous education experience ($F_{(df = 5, 155)} = 4.294, p = .003$). Again, however, the Bonferroni post-hoc test showed no significant differences at the $p < 0.05$ level between the participants with known previous tertiary educational experience. Figure 5.5 shows that the mean score for the participants with previous tertiary educational experience was markedly lower than the other three groups. Table 5:1 records the mean of the tertiary group at 276: the only participants in any other subgroup in the study with lower mean scores were those from the Level 2 Introduction to Foundation (mean = 226) and those with future career plans classified as Other (mean = 250). However, caution is needed with just five in the tertiary-qualified group. They were all speakers of a first language Other than English.

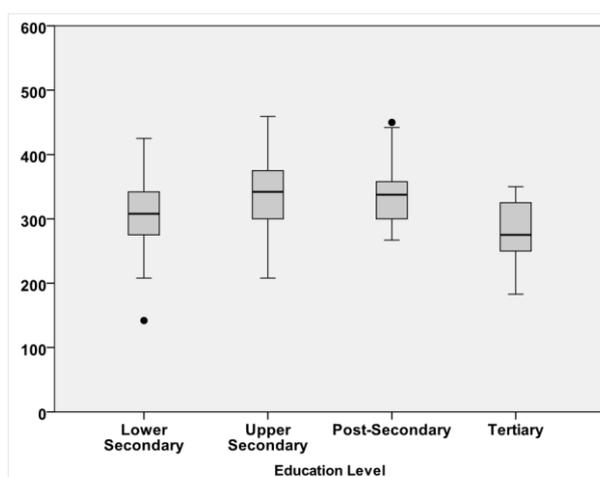


FIGURE 5.5 WRITING TASK LEVEL SCORE BY PREVIOUS EDUCATION

A significant difference was found in the sixth demographic factor, current bridging programme. The Levene test ($F_{(df = 2, 157)} = 3.474, p = .033$) showed that the variances were not homogenous. Therefore a non-parametric Kruskal-Wallis H -test was run using ranked data. The result ($\chi^2_{(df = 2)} 41.064, p < .001$) identified a significant difference in the writing results. Tamhane's post-hoc test revealed significant difference in writing scores among all three class levels.

A major difference was evident between the Level 2 Introduction to Foundation programme participants and both the Level 4 Advanced Foundation programme (MD = -122.99, $p < .001$), and the Level 3 Foundation programme (MD = -88.44, $p < .001$). There was also a significant difference between the writing produced by Level 3 Foundation programme participants and the Level 4 Advanced Foundation students' production (MD = -34.55, $p < .001$). Given that the participants were allocated to the programmes on the basis of a pre-enrolment placement literacy skills and writing test, the placement procedure appears sound. The boxplots (see Figure 5.6) graphically illustrate the statistical differences.

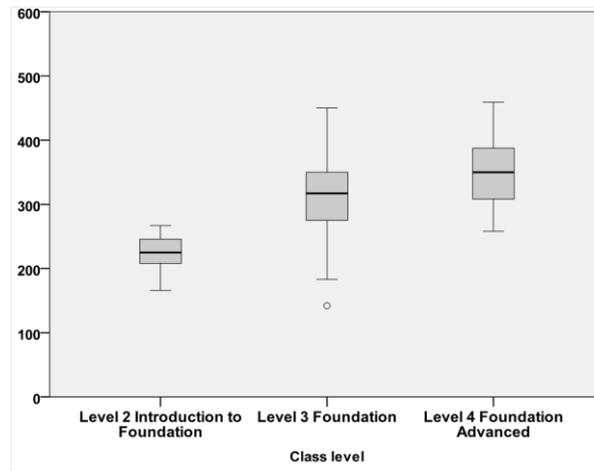


FIGURE 5.6 WRITING TASK LEVEL SCORES BY BRIDGING PROGRAMME LEVEL

One-way ANOVA results showed that there were significant differences in the writing production between participants who had different planned future courses ($F_{(df = 7, 147)} = 2.787, p = .009$). The tests were run on 155 of the participants as the future course plans for five of the participants were unknown. The Bonferroni post-hoc test showed two marginal but no significant results. Boxplots of the writing results of the participants in the planned future courses are displayed in Figure 5.7.

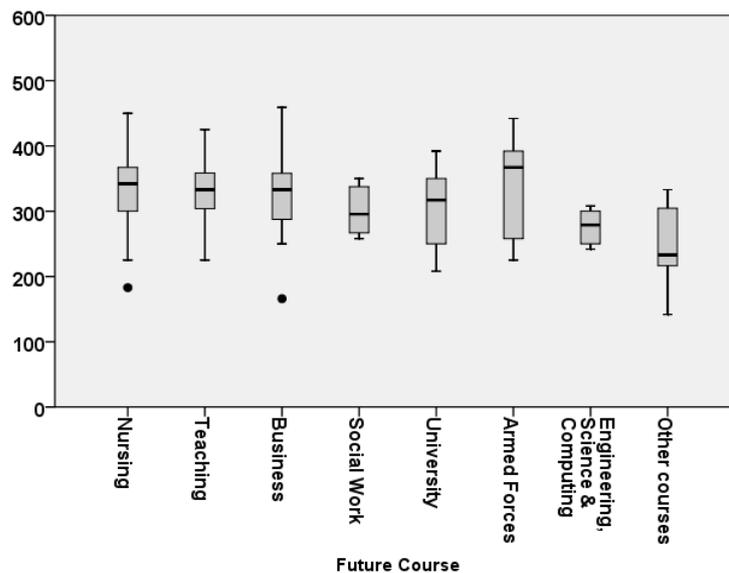


FIGURE 5.7 WRITING TASK LEVEL SCORES BY FUTURE COURSE

B. Writing assessment by progressions

Participants' writing was assessed using the LPs. The scores given for each LP were examined to look for possible links particularly between writing, vocabulary and spelling as they were all items examined in the self-efficacy questionnaire. Differences in the LP scores might also contribute to a greater understanding of writing skill as a component of academic literacy. Each of the six writing progressions was examined separately: Purpose and Audience; Spelling; Vocabulary; Language and Text Features; Planning and Composing; and Revising and Editing. As outlined previously, 10 points were scored for each level, with five points awarded where some but not all of the features of writing of

the next higher level were displayed. This gave a possible score of 60 for each LP. With each of the six components contributing a maximum of 60 points to the overall writing score this gave a total of 360. The writing total of 360 was multiplied by 1.667 to give a score of 600. With there being six writing LPs, 100 points were allocated to each, with one-sixth of the 100 for each of the six levels. The scores allocated and the corresponding levels are given in Table 5.2.

TABLE 5.2
WRITING SCORES AND CORRESPONDING WRITING LEVELS

Score /600	0	50	100	150	200	250	300	350	400	450	500	550	600
% Score	0	8	17	25	33	42	50	58	67	75	83	92	100
Writing Level	0	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6

The median score for the writing level made up of the six LPs was 325 with a lower quartile of 277 and an upper quartile of 365. In examining each LP, the median scores for Spelling, Vocabulary, and Planning and Composing, were 50, while those for Purpose and Audience, Language and Text Features, and Revising and Editing were at 58. The upper quartile score for Purpose and Audience (75), equivalent to a band score of 4.5 was markedly higher than the upper quartile scores of the other five LPs (58), a whole band lower at 3.5.

Figures 5.8 to 5.13 show the distributions of writing levels for each LP (x-axis) graphed against participants' total writing scores (y-axis). A notable feature is the generally wide range of total scores at the band scores, indicating the unevenness of writing development. The movement of overall writing totals upwards from left to right mapping the general development of writing for the participants but the band scores for each level are rarely discrete, with many of the boxplots at specific band scores having a range of scores which overlap the scores on either side. Correlations showed that all of the LPs related strongly with each other and very strongly with the overall writing score. The LP with the strongest significant relationship and the least amount of overlap is in the Vocabulary LP ($r_{(n=160)} = .881, p < .001$).

The lowest overall score of 17, (a band score of 1) was received by three participants, one for Spelling, one for Planning and Composing and one for Revising and Editing. The two high scores of 92 (a band score of 5.5) were awarded to two participants for Purpose and Audience.

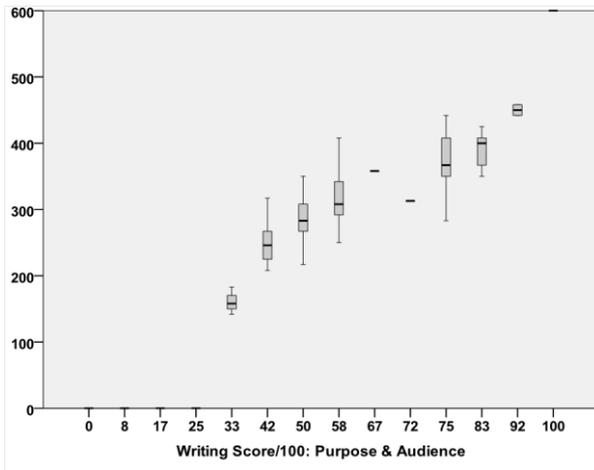


FIGURE 5.8 WRITING TASK: PURPOSE AND AUDIENCE PROGRESSION

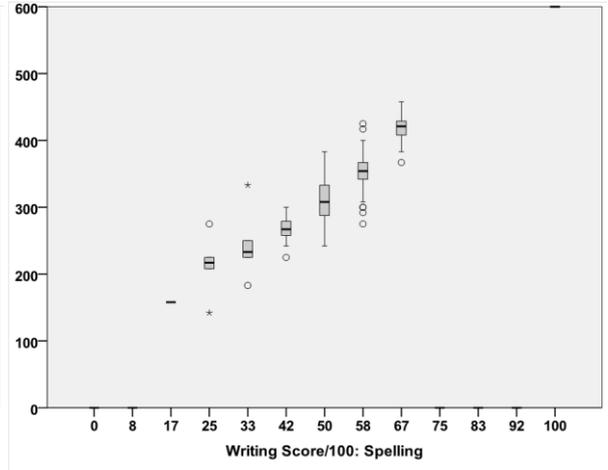


FIGURE 5.9 WRITING TASK: SPELLING PROGRESSION

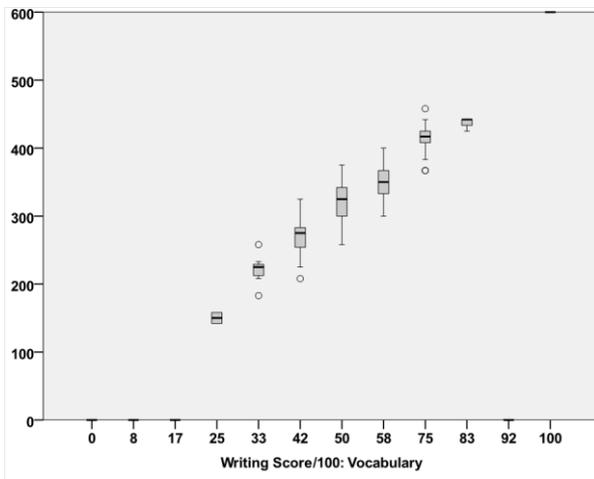


FIGURE 5.10 WRITING TASK: VOCABULARY PROGRESSION

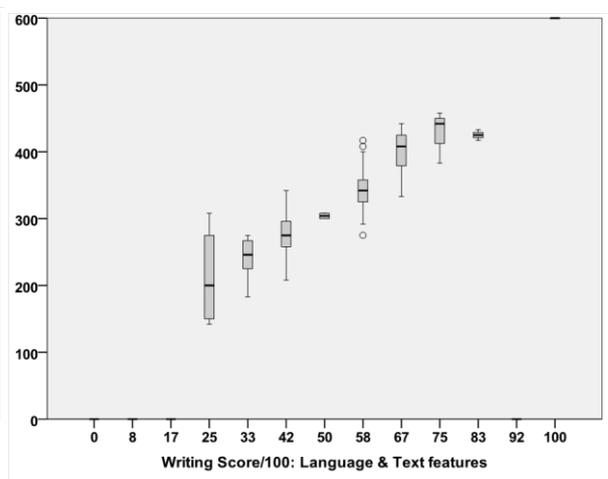


FIGURE 5.11 WRITING TASK: LANGUAGE AND TEXT FEATURES PROGRESSION

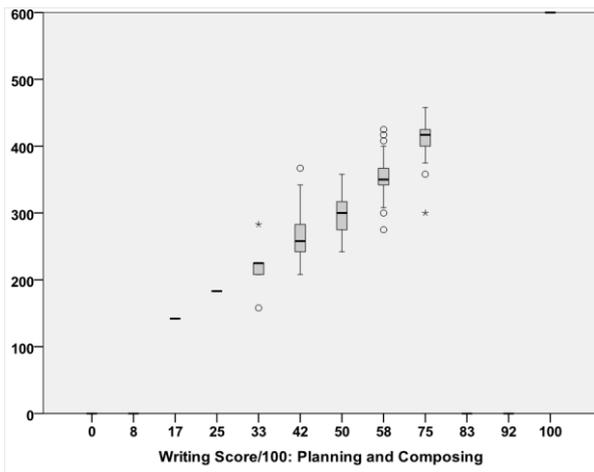


FIGURE 5.12 WRITING TASK: PLANNING AND COMPOSING PROGRESSION

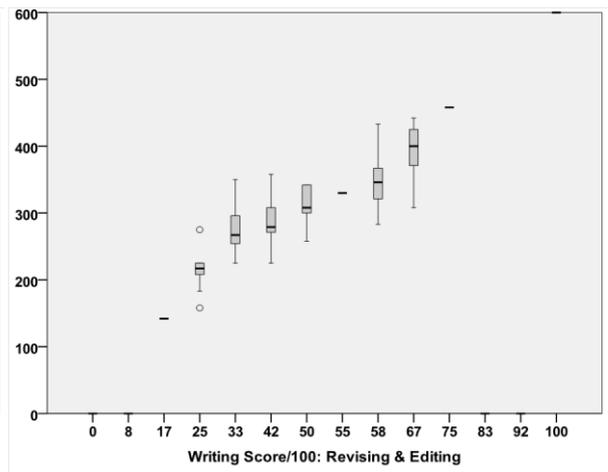


FIGURE 5.13 WRITING TASK: REVISING AND EDITING PROGRESSION

To further examine the writing scores, participants were grouped by writing band rather than actual writing score. The purpose was to observe if differences between demographic categories revealed earlier would be confirmed using ordinal groups. Over half of the participants produced writing at Band 3 (54.3%). Both the mean (325) and the upper quartile (365) were at this level.

TABLE 5.3

DISTRIBUTION OF PARTICIPANTS BY WRITING SCORE LEVEL

<i>n</i> = 160	Percentage of Participants Writing at Each Level					
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
Writing Level						
Writing score / 600	100-199	200-299	300-399	400-499	500-599	at 600
% of participants	1.9%	29.4%	54.3%	14.4%	0.0%	0.0%

The distribution of participants by demographic subgroup for each of the seven demographic factors was obtained by cross-tabulation. As the data on the writing groups were ordinal, they were tested by the Mann-Whitney *U*-test for gender and first language, and by Kruskal-Wallis *H*-test for age, ethnicity, previous education, bridging programme level, and future course. The significant over-representations revealed by the cross-tabulation matrices are highlighted in Table 5.4.

Females were significantly more highly represented in Band 3 writing, while males were over-represented in Band 2 (Mann-Whitney $U = 1497$, $p < .001$). This confirmed the gender differences revealed in the scale scores observed earlier.

Although the three Band 1 writers were all in the 26-45 age group and none of the Band 4 writers were in the 46-65 age group, the Kruskal-Wallis *H* statistic ($\chi^2_{(df=9)} = 13.129$, $p = .157$) did not reveal significance differences by age group. Similarly, the earlier testing of age by ANOVA showed no significant results.

The Kruskal-Wallis *H* statistic ($\chi^2_{(df=9)} = 14.296$, $p = .112$) revealed no significant differences in writing by ethnicity group in line with earlier testing by ANOVA. However, Other Ethnicities were over-represented at Band 2 and Pasifika peoples were over-represented at the highest level, Band 4. New Zealand Europeans were under-represented at Band 2 and over-represented at Band 3. New Zealand Māori had a distribution in expected proportions. The high representation by Pasifika peoples in Band 4 writing may well be a function of the fact that 50% of this ethnicity group had previously attended the upper level of secondary education with many gaining credits at NCEA Level 2.

Significant differences (Mann-Whitney $U = 2230$, $p < .001$) were found in the writing band scores of participants with different first languages. Those with English as a first language were more highly represented in Bands 3 and 4, while those who had English as a second or additional language were over-represented in Bands 1 and 2. All participants whose writing was scored in Band 1 had English as another language. This result mirrors the independent samples *t*-test where the mean of the writing

of participants with English as a first language were nearly half a band higher than those who have a first language other than English.

TABLE 5.4

THE DISTRIBUTION OF WRITERS AT EACH OF THE FOUR LEVELS BY DEMOGRAPHIC SUBCATEGORY.

Writing Level	<i>n</i> =	1	2	3	4	Writing Level	<i>n</i> =	1	2	3	4
GENDER						AGE GROUPS					
Female	122	2	26	74	20	16-19 year olds	51	0	12	30	9
Male	38	1	21	13	3	20-25 year olds	48	0	14	28	6
ETHNICITY						FIRST LANGUAGE					
NZ European	22	0	1	18	3	26-45 year olds	46	3	15	20	8
NZ Māori	32	0	9	19	4	46-65 year olds	15	0	6	9	8
Pasifika	48	1	15	22	10	Other than English	88	3	35	41	9
Other	58	2	22	10	6	English	72	0	12	46	14
EDUCATION						FUTURE COURSE					
Lower Secondary	40	0	14	24	2	Nursing	76	1	19	43	13
Upper Secondary	81	1	21	42	18	Teaching	23	0	3	18	2
Post-secondary	26	1	5	17	3	Business	25	2	6	12	5
Tertiary	5	1	3	1	0	Social Work	7	0	4	3	0
COURSE LEVEL						UNIVERSITY					
Level 2 Introduction	12	1	11	0	0	Armed F/Police	5	0	2	2	1
Level 3 Foundation	72	2	23	41	6	IT/Sci/Engineering	8	0	5	3	0
Level 4 Advanced	76	0	13	46	17	Other Courses	5	0	4	1	0

The writing of participants who had previous educational experience at the higher secondary level was over-represented at Band 4 ($\chi^2_{(df=9)} = 21.630, p = .010$). Participants with lower secondary education were under-represented in the highest band. Other than that, the distribution of participants in writing bands by previous education level was generally as expected. The small group of tertiary qualified participants was not recorded by the χ^2 statistic as it had an expected counted of less than 5 in each cell.

The earlier significant results for differences in writing between the current bridging programme levels were also confirmed ($\chi^2_{(df=6)} = 38.388, p < .001$). No participants from the Level 2 Introduction to Foundation class wrote at Band 3 or 4. The Level 4 Advanced Foundation programme participants were over-represented in the higher two bands, 3 and 4.

In the future course sub-categories, participants opting for the IT/Science/Engineering and Other courses were more represented at Level 2 than expected, but not significantly ($\chi^2_{(df = 21)} = 28.453, p = .128$).

An analysis of participants at each writing band confirmed the patterns displayed earlier in the total writing scores.

5.3 Reading

The second component of academic literacy examined was reading. A preliminary reading comprehension test was undertaken in the second week of the semester to familiarise participants with the test format and question types that would be in the reading test towards the end of the semester. The test consisted of 46 questions based on nine reading texts. The time allocation was 50 minutes. The test construction was outlined in Chapter 3, Section 3.6.2.B.ii

5.3.1 Reading assessment

The reading comprehension task was sat in week 15 of the semester. As there is no specific reading comprehension test in the course programme many participants chose to continue with course-related work rather than undertake the test which was administered by their course lecturers. From the 212 participants, 117 reading tasks were collected. Three were discarded as only the first page had been completed. There were higher proportions of females, speakers of languages other than English, and those classified as Other ethnicities completing the assessment than statistically expected. It is likely that these latter two groups had had more recent experience of reading comprehension tests than native speakers of English. The 96 participants who did not complete the comprehension test were from a random mix of classes and programme levels, and varied in ethnicity, age, and future course.

The test had 46 questions and one mark was allocated per question, regardless of difficulty. For ease of reporting, the raw scores were converted into percentages. The median score was 72% and the mean 68.97%. The boxplot in Figure 5.15 shows the lower quartile was 58%, with the upper quartile at 83%. There were two outliers including the lowest scoring participant on 11%. The maximum score of 98% was scored by one participant. The frequency distribution of the marks for the 114 comprehension tasks shown in Figure 5.14 appeared to be skewed. However a one-sample Kolmogorov-Smirnov test for normality ($Z_{(df = 114)} = 1.278; p = 0.076$) indicated that the data were not sufficiently different from a normal distribution, thus allowing the use of parametric tests in further statistical analyses.

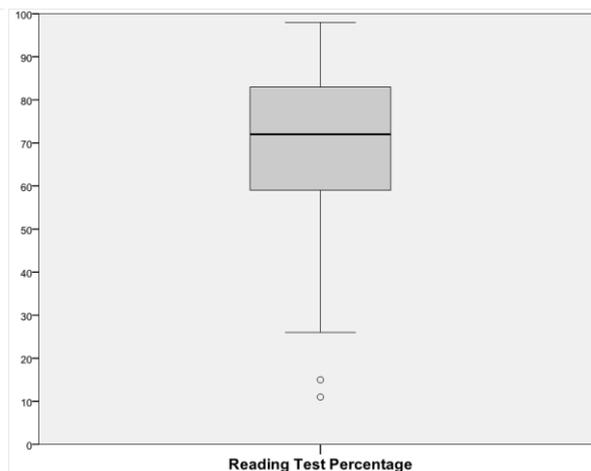
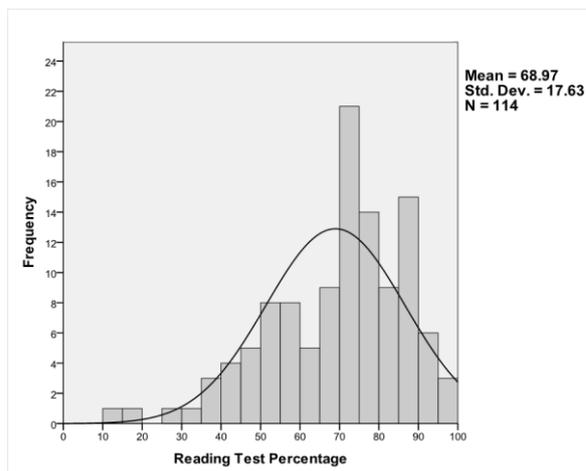


FIGURE 5.14 FREQUENCY DISTRIBUTION: READING TEST FIGURE 5.15 BOXPLOT: READING TEST

One point to note when looking at these scores is that 17 participants did not complete the entire nine sections of the test. Clearly this reduced the possible scores for those participants. Although there was a set time limit for the reading comprehension test of 50 minutes, the supervising lecturer reported that very few participants were still working at the 50 minute mark. The tests were sat in a class situation and once most of the class had completed the test, others seemed to be aware of this and soon finished working on their tests. Nine of the 17 who did not complete all sections missed the final section only. The two outliers had not completed all of the questions. Although the range was large (87%) the interquartile range at 25% gave a fairer indication of the spread of marks for most participants. The Fisher skewness statistic of -0.836 confirms the observation of the greater distance between the median and the lower quartile than the median and the upper quartile, and the difference between the mean and the median.

A. Reading assessment by demographic group

The reading test scores were examined for differences between the subcategories in gender, age, ethnicity, first language, previous education, current bridging programme level and future course plan. As with the writing component, this analysis was undertaken to examine the extent that participants' academic literacy may vary according to their backgrounds.

Independent-samples *t*-tests for gender and first language and one-way ANOVA were used to compare the means of each demographic category. The results indicated significant levels of difference in seven subcategories and these are highlighted in Table 5.5.

Male participants' scores were confirmed as being significantly below the mean for females ($t_{(df = 112)} = -6.29, p < .001$). A second variable was the current bridging-programme level. The Bonferroni post-hoc test showed a difference not only between the Level 2 Introduction to Foundation programme, ($F_{(df = 2,111)} = 6.650, p = .002$) and the Advanced Foundation class (MD = $-19.826, p = .001$), but also between the Level 2 Introduction to Foundation class and the Level 3 Foundation Class (MD = $-14.227, p = .026$). This is shown in Figure 5.17. It was noted that unlike the writing results where there was also a significant difference between the Level 3 Foundation programme and the Level 4 Advanced Foundation programme, the difference between the two in the reading assessment was not

significant. The first language of participants showed a significantly lower mean for speakers of other languages when compared to speakers of English as a first language ($t_{(df = 112)} = -3.979, p < .001$). This can be seen in the boxplot in Figure 5.18.

TABLE 5.5

READING TEST: PERCENTAGE MEAN SCORES BY DEMOGRAPHIC SUBGROUPS

	Mean	n		Mean	n
GENDER			AGE GROUPS		
Female	72%	88	16-19 year olds	65%	37
Male	59%	26	20-25 year olds	70%	34
ETHNICITY			26-45 year olds	74%	32
NZ European	74%	15	46-65 year olds	66%	11
NZ Māori	79%	16	FIRST LANGUAGE		
Pasifika	74%	48	Other than English	64%	69
Other Ethnicity	65%	58	English	77%	45
EDUCATION			FUTURE COURSE		
Lower Secondary	69%	25	Nursing	73%	53
Upper Secondary	69%	56	Teaching	72%	14
Post-secondary	72%	20	Business	63%	19
Tertiary	67%	5*	Social Work	69%	6*
COURSE LEVEL			University	65%	5*
Level 2 Introduction	54%	12	Armed Forces / Police	48%	3*
Level 3 Foundation	68%	58	Engineering/Computing	73%	6*
Level 4 Advanced	74%	44	Other Courses	58%	5*

*Sample too small to register significance

Similarly a one-way ANOVA for the reading scores showed a significant difference existed for ethnicity. The Bonferroni post-hoc test revealed it to be between the mean for the highest scoring subgroup of the 16 New Zealand Māori, at 78.9%, and the mean for Other Ethnicities at 63.0% (MD = 15.857, $p = .007$). The summary measures for the ethnic groups in Figure 5:19 show that although the median was higher for the New Zealand European group, the range was substantially wider than the similarly sized New Zealand Māori group.

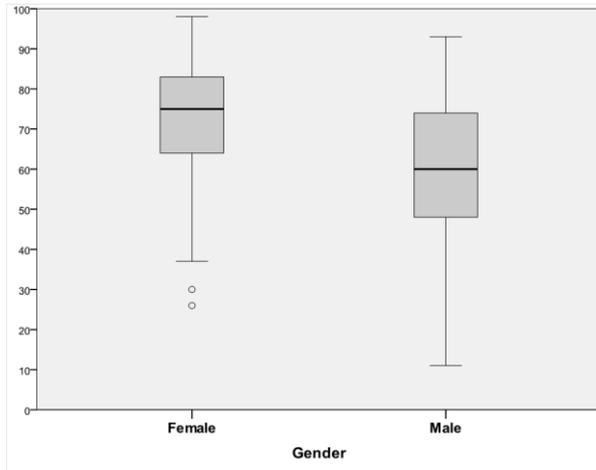


FIGURE 5.16 READING TEST PERCENTAGES BY GENDER

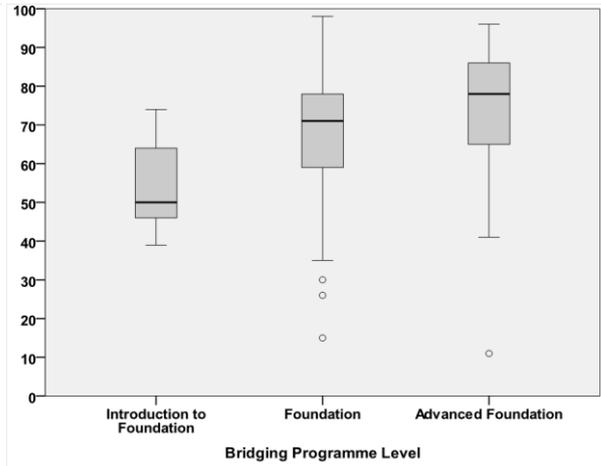


FIGURE 5.17 READING TEST PERCENTAGES BY PROGRAMME LEVEL

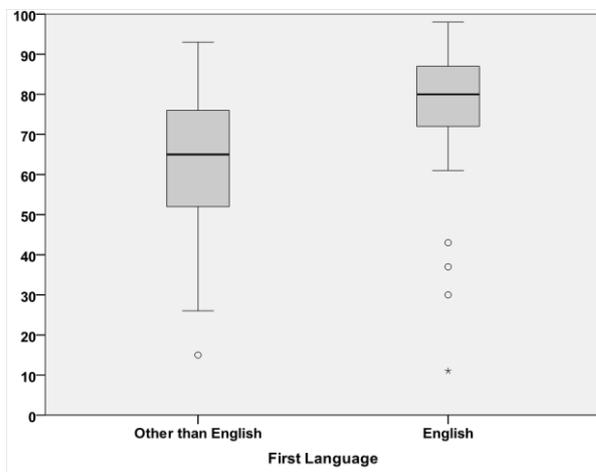


FIGURE 5.18 READING TEST PERCENTAGES BY FIRST LANGUAGE

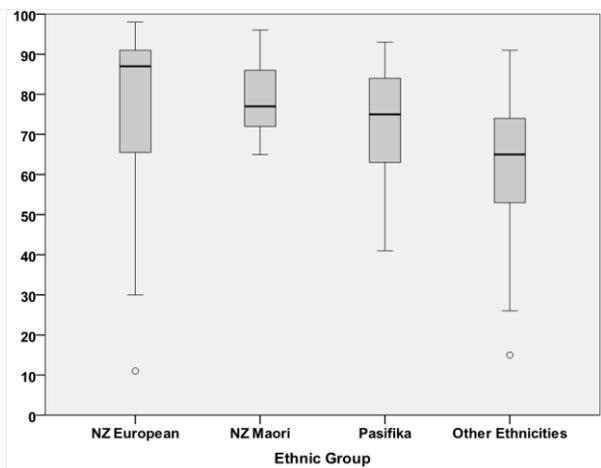


FIGURE 5.19 READING TEST PERCENTAGES BY ETHNIC GROUP

The one-way ANOVA for previous education ($F_{(df = 3,102)} = .132, p = .941$) and age group ($F_{(df = 3,110)} = 1.539, p = .208$) showed no significant differences between the subcategories in these demographic factors. The future course category had very small numbers in three of the five subcategories and consequently had no reliable results.

5.4 Vocabulary

The third factor measuring academic literacy in this study was vocabulary. Vocabulary is the mechanism for carrying the meaning in communication for both reading and writing; however in English there is a whole different vocabulary needed for cognitive/academic language proficiency in addition to that required for basic interactive communication, and it was therefore considered worth examining vocabulary as a separate component of academic literacy.

5.4.1 Vocabulary assessment

A standard vocabulary measurement tool, Nation's (1983) Vocabulary Levels Test (VLT) was administered midway through the 18-week course to 128 participants as a precursor to the reading and writing data collections. The VLT consists of five sections each with 30 items. Four of the sections collected data on participants' acquisition of receptive knowledge of words of decreasing frequency. A fifth section specifically examined participants' receptive knowledge of the 570 word families in Coxhead's (2000) Academic Word List (AWL). The mean scores for the four frequency Word List (WL) levels were 27.63 for the Second-Thousand WL, 23.83 for the Third-Thousand WL, 22.51 for the Fifth-Thousand WL, and 13.41 for the Tenth-Thousand WL. The mean of the scores for the AWL was 22.59, equivalent to that for the Fifth-Thousand WL although not nearly as widely dispersed. The mean scores and the positioning of the academic vocabulary were similar to what Schmitt, Schmitt and Clapham (2001, p. 68) and Read (1988) found. The five summary measures for each section are displayed in the boxplot in Figure 5.20 with the scores from the five 30-item sections. Note that the AWL section has been positioned between the Fifth-Thousand and the Tenth-Thousand Words Lists.

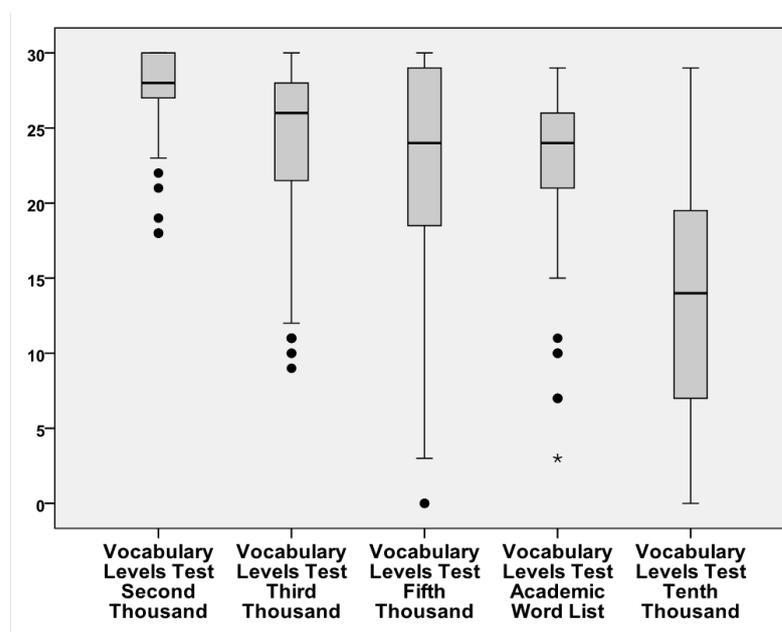


FIGURE 5.20 VOCABULARY LEVELS TEST: NUMBER OF CORRECT ITEMS BY WORD FREQUENCY BAND AND AWL SECTIONS.

As in the analysis by Schmitt et al. (2001) and that by Read (1988), a Guttman scalability analysis (Hatch & Lazaraton, 1991, pp. 204-216) was carried out using Schmitt et al.'s (p. 67) criterion of mastery of 26 in each 30-item section. The results are shown in Table 5.6. With Hatch and Lazaraton's guideline that coefficients of $> .90$ for reproducibility (C_{rep}) and of $> .60$ for scalability (C_{scal}) are required to establish validity, the data from the present study conformed to the same standards for high scalability. The maximum and minimum marginals of reproducibility (MM_{rep}) should be less than the coefficient for reproducibility. This means that the achievement of mastery at a lower frequency level by a participant can normally be assumed to indicate mastery at the higher levels as well.

TABLE 5.6

RESULTS OF THE GUTTMAN SCALABILITY ANALYSIS [WORD ORDER: 2000, 3000, 5000, 10000]

	Current Study	Schmitt <i>et al.</i> (2001) Version 2	Read (1988) 2 nd Administration
C_{rep}	0.987	0.995	0.92
MM_{rep}	0.769	0.775	0.48
C_{scal}	0.946	0.978	0.84

A vocabulary frequency band for each participant was obtained using the criterion of 26 correct for each of the 30-item frequency sections to measure mastery. Participants were divided into five mastery levels: at the 10,000 WL, 5000 WL, 3000 WL, 2000 WL, and those who had not yet mastered the 2000 WL. Mastery of the AWL section was analysed separately.

The participants' mastery of the frequency band is an ordinal measurement. In order to use an interval-scale vocabulary score each participant's scores from the four frequency levels were added. A Spearman's correlation analysis showed a strong correlation between the total score and the frequency mastery levels ($\rho_{(n=128)} = .895, p < 0.001$), indicating that a total vocabulary score could be used as a measurement of vocabulary knowledge.

A. Vocabulary scores by demographic group

The vocabulary frequency bands were examined in terms of the seven demographic factors. As with the similar investigation of the writing and reading components, any differences between groups of individual participants which might add an additional understanding or confirm a pattern highlighted in other components were investigated as a possible influence on the levels of academic literacy.

Pearson chi-squared tests were run for the nominal gender, ethnicity and first language data, and Spearman's correlation tests were used for the ordinal age group, previous education, and current bridging programme level data. In order to satisfy Cochran's (1954) rule that in a chi-squared analysis no expected cell frequencies should be less than one, with no more than 20% less than 5, the vocabulary frequency mastery groups were collapsed into three broader bands: those participants who had not yet mastered the 2000 WL level ($n = 20$); those who had mastered the 2000 and 3000 WLs but not more than that ($n = 52$); and the 48 who had mastered the 5000 WL together with the eight participants who mastered the 10,000 WL ($n = 56$). A similar difficulty existed for the future course plan data where there were 8 subgroups and consequently two of the smaller groups were not examined.

The median scores for the various subgroups are presented in Table 5.7 and significant differences are highlighted. These were found for ethnicity ($\chi^2_{(df=6, n=128)} = 50.542, p < 0.001$), and for participants' first language ($\chi^2_{(df=2, n=128)} = 46.721, p < 0.001$). Examination of the cell frequencies found that all of the participants who had not yet mastered the 2000 WL were classified either as Other Ethnicities (80%) or Pasifika peoples (20%). In the group which achieved mastery of vocabulary at the 2000 WL and the 3000 WL, 87% were from the same two ethnicity groups, with 77% being native speakers of a

TABLE 5.7

VOCABULARY LEVELS: MEDIAN SCORES BY DEMOGRAPHIC GROUPS

Collapsed Vocabulary Level Bands – by Demographic Subgroups

Demographic Subgroup	<i>n</i>	2000 th word level not-yet mastered	2000 th and 3000 th word frequency level mastered	5000 th and 10,000 th word frequency level mastered	Academic Word List not-yet mastered	Academic Word List mastered
ALL PARTICIPANTS	128	20	52	56	87	41
GENDER						
Female	97	13	39	45	66	31
Male	31	7	14	10	21	10
AGE GROUP						
16-19 year olds	43	8	24	11	33	10
20-25 year olds	36	5	15	16	26	10
26-45 year olds	35	4	11	20	20	15
46-65 year olds	14	3	3	8	8	6
ETHNICITY						
NZ European	17	0	3	14	36	11
NZ Māori	25	0	4	21	15	10
Pasifika	33	4	16	13	24	9
Other Ethnicities	53	16	30	7	42	11
FIRST LANGUAGE						
Other than English	75	20	41	14	63	12
English	53	0	12	41	24	29
EDUCATION*						
Lower Secondary	36	4	8	24	19	17
Upper Secondary	64	8	32	24	45	19
Post-secondary	4	0	2	2	3	1
Tertiary	5	2	2	1	4	1
PROGRAMME LEVEL						
Level 2 Introduction	13	6	6	1	12	1
Level 3 Foundation	60	8	32	21	46	14
Level 4 Advanced	55	6	15	34	29	26
FUTURE COURSE**						
Nursing	57	5	26	26	36	21
Teaching	14	2	4	8	7	7
Business	16	5	7	4	12	4
Social Work	7	1	4	2	7	0
University	6	1	4	1	5	1
Armed Forces / Police	4	0	3	1	3	1
IT / Sci / Engineering	6	2	0	4	5	1
Other Courses	3	1	2	0	3	0

* Previous Education data unknown for 19 participants

**Future Course data unknown for 15 participants

language other than English. All participants in the lowest group, who had not mastered any of the vocabulary levels, identified themselves as speakers of a first language other than English. The strong link between ethnicity and first language was confirmed by Pearson's chi-squared ($\chi^2_{(df=3, n=128)} =$

89·389, $p < 0.001$) and can be seen in the graph in Figure 4.8 in Chapter 4, and discussed in Section 4.6.

Class level was the third demographic variable where a modest but significant association was recorded in the Spearman's correlation statistic ($\rho = 0.358$, $p < 0.001$). Examination of the counts in Table 5.7 for course level showed that 46% of the Level 2 Introduction to Foundation programme class had not yet mastered vocabulary at the 2000 WL, while of the Level 3 Foundation programme participants, 52% had achieved mastery at the 2000 and 3000 WLs. Of participants in the Level 4 Advanced Foundation programme, 62% had achieved mastery at the 5000 and 10,000 WLs. In fact, seven of the eight participants who achieved mastery at the 10,000 WL were from the Level 4 programme. The allocation of participants to these class levels by a reading and writing placement test on entry would largely account for this result, demonstrating the link between reading, writing and vocabulary level.

In addition to the vocabulary frequency bands, the VLT contained a 30-item AWL section testing receptive knowledge of academic vocabulary. As with the frequency WL sections, mastery was assumed with a score of 26 in this section. The range was from 3 to 29. The mean for the section scores was 22.59 with a standard deviation of 4.911. Of the 128 participants tested, 41 achieved mastery: over two-thirds (68%) did not.

The results of AWL section were compared with participants' performance in the frequency lists. Participants were divided into five groups based on the frequency band mastery outlined, and their AWL results were compared. The five darker boxplots in Figure 5.21 show the spread of the 87 participants who had not mastered the AWL section. Those in each frequency band who had achieved mastery of academic vocabulary (the four lighter boxplots) scored higher than those who had not. The overall five section scores are strongly correlated with the participants' progression through the frequency bands ($\rho_{(n=128)} = .876$, $p < 0.001$). Note there is no lighter-coloured box in the 'Below 2000' word frequency band as no participant in this band mastered the AWL section.

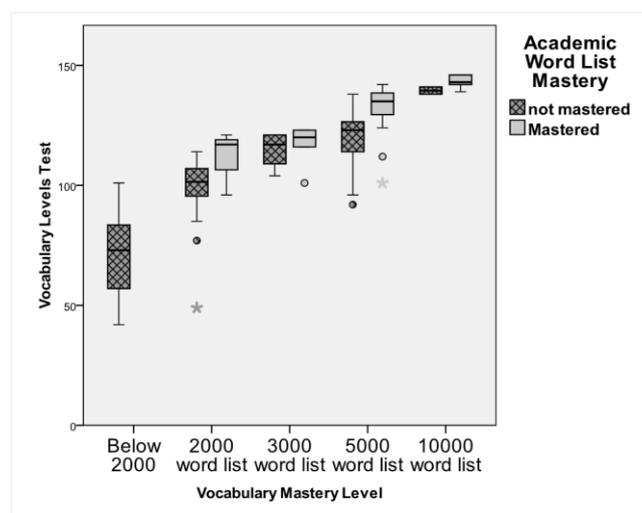


FIGURE 5.21 VOCABULARY LEVELS TEST: OVERALL 5-SECTION SCORES BY FREQUENCY MASTERY AND AWL MASTERY.

A crosstabulation of the mastery of the AWL by demographic groups revealed no significant difference between observed and expected values for gender, age group, and previous education. The future course data suffered from the same restrictions outlined for the vocabulary frequency scores. The AWL section produced similar results to the frequency score data in that significant differences were found for ethnicity ($\chi^2_{(df=3, n=128)} = 12.505, p < 0.01$), first language ($\chi^2_{(df=1, n=128)} = 21.382, p < 0.001$) and Class Level ($\rho = 0.300, p < 0.001$). The numbers of participants in each demographic subgroup who gained mastery of the AWL section are given in the two right-hand columns of Table 5.7.

Figure 5.22 graphically illustrates the links between participants' mastery of vocabulary at a particular band level, and their overall total correct out of 120. As academic literacy is a particular focus of this study, the addition of participants' scores for the academic vocabulary section was investigated. There was almost a perfect correlation between the total five-section scores, with the academic vocabulary section added, and the four-section frequency only score ($r = .985, p < 0.001$). Thus the total five-section score out of 150 was used as the measure of vocabulary knowledge for participants in this study.

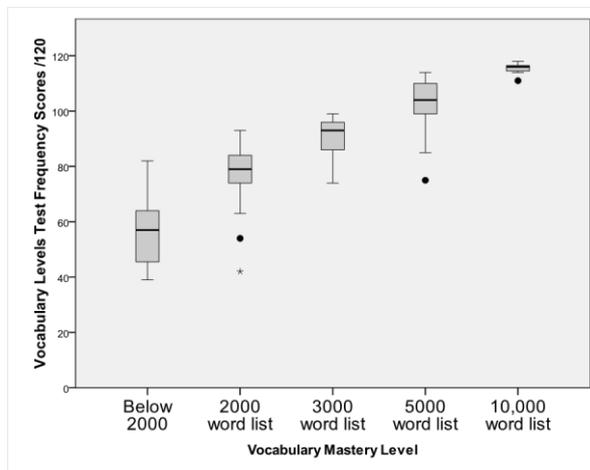


FIGURE 5.22 VOCABULARY LEVELS TEST: TOTAL FREQUENCY SCORES BY MASTERY LEVEL.

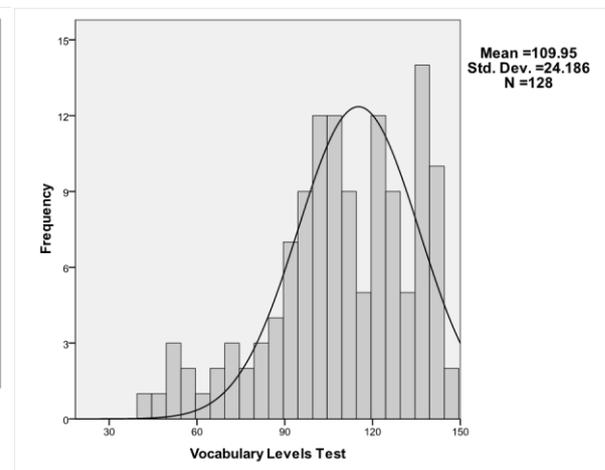


FIGURE 5.23 VOCABULARY LEVELS TEST: OVERALL 5-SECTION SCORES

The frequency histogram with mean and standard deviation for the total scores of all five sections is given in Figure 5:23.

5.5 Comparisons between writing, reading and vocabulary

With writing, reading and vocabulary measurements collected, an analysis was conducted of the relationships among the three. Of the 212 participants in the survey, 160 completed the writing task, 114 the reading comprehension test, and 128 the VLT. There were 125 who took both the writing task and VLT, 109 who took both the writing and the reading, and 93 who took both the reading and VLT. Ninety-one participants completed all three assessments.

The three components of academic literacy displayed moderate relationships: Reading and writing ($r_{(n=109)} = .425, p < 0.001$); reading and vocabulary ($r_{(n=93)} = .488, p < 0.001$); and writing and vocabulary ($r_{(n=125)} = .514, p < 0.001$). This indicated that participants who scored well in one of the three measures of

academic literacy, tended to score well on at least one other. However, it should be noted that the shared variance between the pairs of measures ranged from just 18.1% (reading and writing) to 26.4% (writing and vocabulary).

In the marking of the writing samples participants were given a mark specifically for the Vocabulary LP as well as the overall writing mark. The correlation of the Vocabulary LP and the vocabulary mark gained from the VLT was slightly higher but very similar ($r_{(n=125)} = 0.531, p < .001$) to the correlation of the latter with the overall writing score given above.

As the raw scores of the VLT (/150), the reading test (/46) and the writing sample (/600) were based on different scoring scales, they were transformed into standard T-scores in order to compare and combine the results. These are given in Table 5.8.

TABLE 5.8

STANDARDISED T-SCORES: SUMMARY: READING, WRITING, AND VOCABULARY

	Reading	Writing	Vocabulary
<i>n</i>	114	160	128
Mean	50.00	50.00	50.00
Lowest score	17	20	22
Lower quartile	43.87	43.02	44.64
Median	51.58	50.02	50.43
Upper quartile	57.75	55.51	57.88
Inter-quartile range	13.88	12.49	13.24
Highest score	66	72	65

Three scatter plots were drawn of the relationships between the T-scores for writing, reading and vocabulary. As these are standardised scores, the mean is 50 and the regression line is $Y = x + 0$.

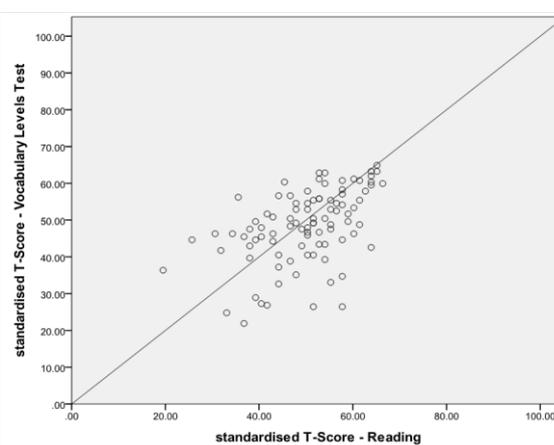
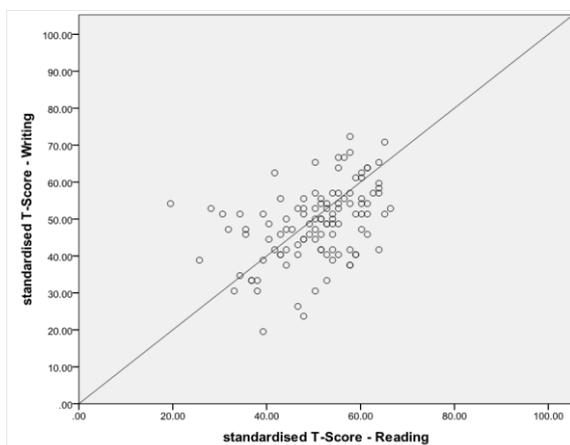


FIGURE 5.24 STANDARDISED WRITING AND READING SCORES FIGURE 5.25 STANDARDISED VOCABULARY AND READING SCORES

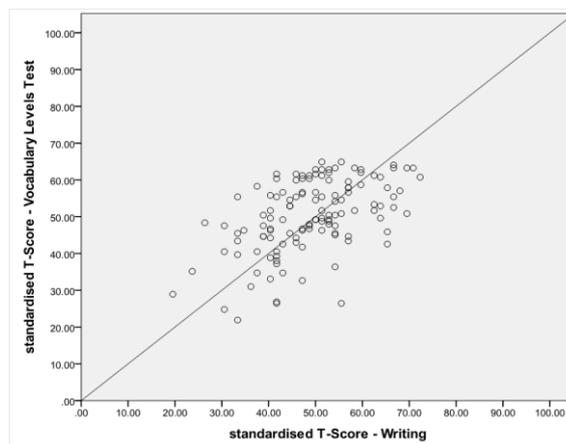


FIGURE 5.26 STANDARDISED VOCABULARY AND WRITING SCORES

The stronger correlations between the reading and vocabulary scores and the writing and vocabulary scores are visible in Figures 5.25 and 5.26. A slightly less linear relationship between reading and writing is displayed in Figure 5.24.

5.6 Construction of a composite index of academic literacy (CIAL)

The T-scores were used to construct a composite measure of academic literacy (CIAL). While each of the components of the CIAL is important and provides its own perspective on the participants' academic literacy, a combination of the three measures gives a broader base for describing the overall academic literacy of the participants. Each component is able to still be examined separately; however, the usefulness of having one overall summary measure was tested.

For the 91 participants who had provided all three measurements for writing, reading and vocabulary, the distribution of their scores in the three separate tests was compared and these are shown in Figure 5.27. These boxplots indicated that the measures of central tendency and of dispersion are similar for the three measures of academic literacy. The means of the T-scores for the 91 participants were 51.58% for reading, 48.68% for writing, and 49.19% for vocabulary. A one-way ANOVA showed there were no significant differences between the means ($F = 2.393$, $p = .094$).

The CIAL was obtained by finding the arithmetic mean of the combined T-scores for the reading, writing and vocabulary measurements collected for each of the 91 participants. Calculated as they were from standardised scores, the median for the scores was 50, the mean was 49.0, and there were no outliers. The near normal frequency distribution shown in Figure 5.28 is confirmed by the boxplot in Figure 5.29 with the scores clustered within an inter-quartile range of 11.6 between the upper quartile at 54.3% and the lower quartile at 42.7%. The scores ranged from 29.3% to 66.3%. The standard deviation was 7.992. There was a slight negative skewness (-0.252).

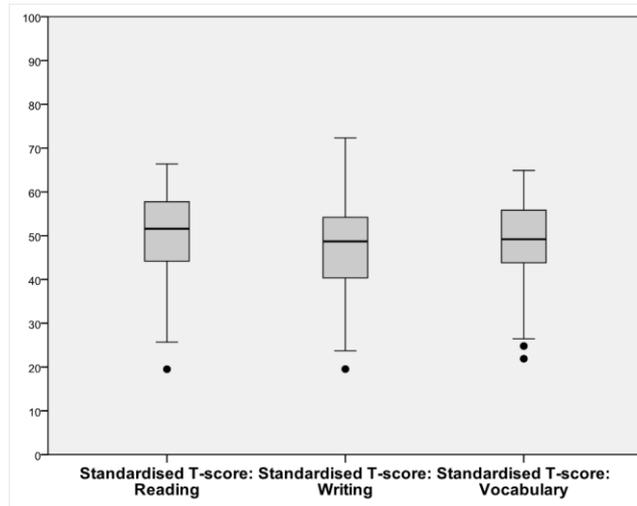


FIGURE 5.27 STANDARDISED T-SCORES: COMPARISON OF VOCABULARY, READING AND WRITING SCORES (N = 91)

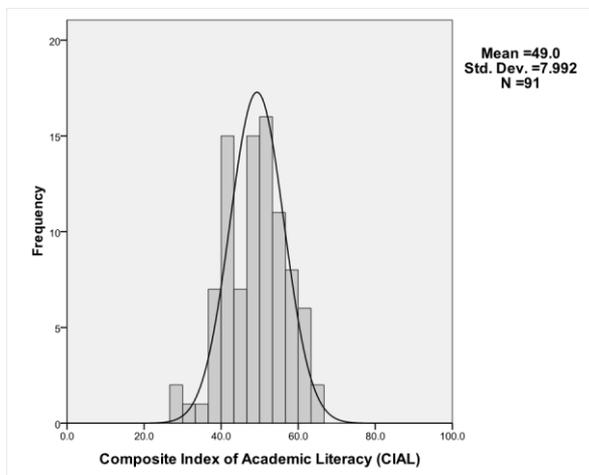


FIGURE 5.28 FREQUENCY DISTRIBUTION: COMPOSITE INDEX OF ACADEMIC LITERACY (CIAL)

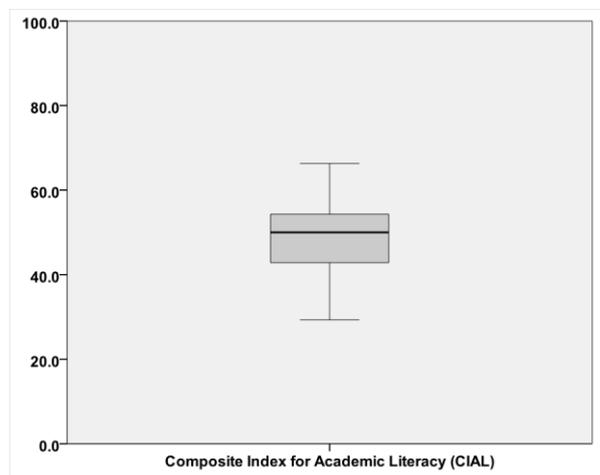


FIGURE 5.29 BOXPLOT: COMPOSITE INDEX OF ACADEMIC LITERACY (CIAL)

Figure 5.30, the closeness of fit of the observed values to the regression line in the quartile-quartile plot showed all but two of the lowest three observed scores around the 30% mark, to be distributed as expected. A one-sample Kolmogorov-Smirnov value ($Z_{(df = 91)} = 0.851$; $p = 0.464$) indicated that the 91 CIALs were not sufficiently different from a normal distribution thus allowing the use of parametric tests in further analyses.

Normal Q-Q Plot of Composite Index of Academic Literacy (CIAL)

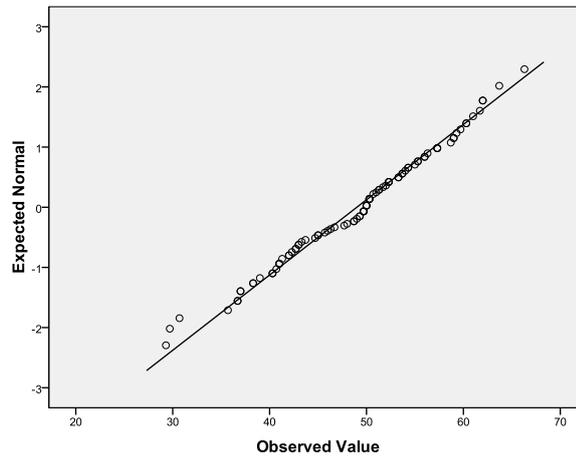


FIGURE 5.30 COMPOSITE INDEX OF ACADEMIC LITERACY (CIAL)
 QUARTILE-QUARTILE PLOT DEMONSTRATING NORMALITY OF DISTRIBUTION

A Cronbach’s alpha co-efficient for the CIAL of the 91 valid cases of $\alpha = .724$ showed that the three components had internal consistency. The results are presented in Table 5.9. The corrected item-total correlations were moderately strong for each component. The co-efficient would not be raised above $\alpha = .724$ if any of the three components were deleted. Vocabulary was endorsed as a valid component of academic literacy alongside reading and writing by being the component which would reduce the alpha co-efficient by the greatest amount if it were to be deleted.

TABLE 5.9
 CRONBACH’S ALPHA STATISTICS FOR COMPONENTS OF THE CIAL

Cronbach’s alpha	.724	Corrected Item-Total Correlation	Cronbach’s alpha if item deleted
Reading T-score		.521	.663
Writing T-score		.540	.645
Vocabulary T-score		.577	.597

The very strong correlations between the components and the CIAL (Table 5.10) were not surprising given that the components were used to construct the CIAL. It is interesting to note that the correlation was a little lower for reading than for those for writing and vocabulary.

TABLE 5.10

CORRELATIONS BETWEEN THE CIAL AND T-SCORES FOR COMPONENTS.

		Reading	Writing	Vocabulary
Reading	<i>n</i>		111	88
	<i>r</i>	-	.424	.532
	<i>p</i>		<.001	<.001
Writing	<i>n</i>			116
	<i>r</i>		-	.510
	<i>p</i>			<.001
Composite Index of Academic Literacy	<i>n</i>	91	91	84
	<i>r</i>	.777	.815	.820
	<i>p</i>	<.001	<.001	<.001

A. Comparisons by demographic group

TABLE 5.11

ACADEMIC LITERACY COMPOSITE SCORES BY DEMOGRAPHIC SUBGROUPS

	Mean	n		Mean	n
GENDER			AGE GROUPS		
Female	50.2	69	16-19 year olds	49.7	28
Male	45.0	22	20-25 year olds	49.0	28
ETHNICITY			26-45 year olds	49.1	25
NZ European	56.3	10	46-65 year olds	47.0	10
NZ Māori	52.8	14	FIRST LANGUAGE		
Pasifika	50.0	22	Other than English	45.5	57
Other Ethnicity	45.7	45	English	54.8	34
EDUCATION			FUTURE COURSE		
Lower Secondary	49.8	19	Nursing	51.1	46
Upper Secondary	49.4	45	Teaching	50.7	8
Post-secondary	50.5	16	Business	47.0	16
Tertiary	43.6	5	Social Work	47.3	6
COURSE LEVEL			University	44.8	4
Level 2 Introduction	37.9	11	Armed Forces / Police	not reported	1
Level 3 Foundation	48.7	49	Engineering/Computing	46.9	5
Level 4 Advanced	53.4	31	Other Courses	40.1	3

The CIAL scores were examined in terms of the seven demographic variables. The purpose was to search for any patterns of difference with particular demographic subgroups, in the hope of understanding if levels of academic literacy in adults in a bridging programme were influenced to any extent by participants' backgrounds.

Independent-samples *t*-tests and one-way ANOVA were used to examine the academic literacy of participants based on the CIAL and demographic data. Equal variances were assumed for all sub-categories except for future course data ($F_{(df = 6,81)} = 3.483, p = .004$) so a Kruskal-Wallis H test was used there. Significant differences were shown in course level and ethnicity by the one-way ANOVA and in gender and first language by independent-samples *t*-test, as highlighted in Table 5.11.

A significant difference between participants in the three different current programmes was signalled by the one-way ANOVA in the CIAL ($F_{(df = 2,88)} = 22.433, p < .001$). This is detailed in Table 5.11 and shown in Figure 5.31. The Bonferroni post-hoc test identified significant mean differences between all three programme levels. The 31 participants in the Level 4 Advanced Foundation programme were contrasted with the 11 participants in the Level 2 Introduction to the Foundation programme (MD = 15.428, $p < .001$), and with the 49 participants in the Level 3 Foundation programme (MD = 4.673, $p = .008$). There was also a significant contrast between the Level 3 Foundation programme and the Level 2 Introduction to the Foundation programme (MD = 10.755, $p < .001$).

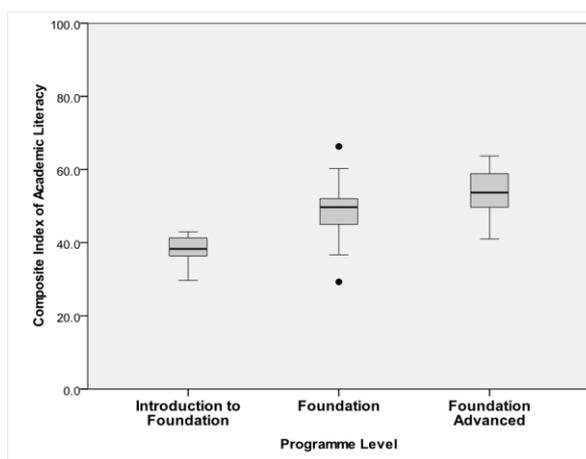


FIGURE 5.31 COMPOSITE INDEX OF ACADEMIC LITERACY BY BRIDGING PROGRAMME LEVEL

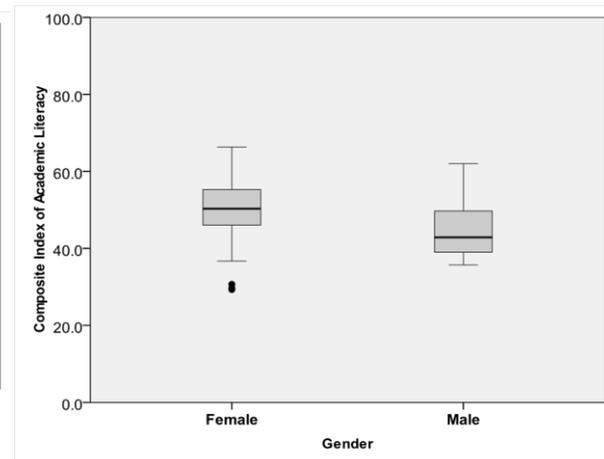


FIGURE 5.32 COMPOSITE INDEX OF ACADEMIC LITERACY BY GENDER

Figure 5.34 shows the difference on the CIAL for gender. The independent samples *t*-test revealed CIALs were significantly lower for males than females ($t_{(df = 89)} = 2.759, p = .007$). This finding is consistent with the results of writing and reading shown in Table 5.1, Table 5.4 and Table 5.5.

A further significant result was returned by one-way ANOVA ($F_{(df = 3,87)} = 7.628, p < .001$), for ethnicity. The Bonferroni post-hoc test revealed a mean difference between those classified as Other Ethnicities and both the highest scoring group, New Zealand European (10.492, $p < .001$), and the second highest group New Zealand Māori (6.786, $p = .016$). The boxplot for these subcategories is displayed in Figure 5.32.

An independent-samples t -test indicated that participants with English as a first language had a significantly higher CIAL score than those whose first language was one other than English ($t_{(df = 89)} = 6.430, p < .001$). The boxplots of the summary data for first language are shown in Figure 5.33. The difference in the means for English language speakers (56.27) and non-English first language speakers (45.78) of 10.49 was greater than the standard deviations for either group. All 11 members of the Level 2 Introduction to Foundation programme were classified as Other ethnicities with 10 being speakers of a first language other than English.

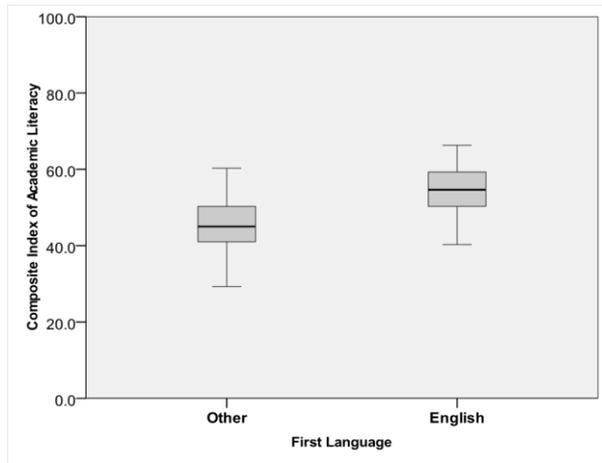


FIGURE 5.33 COMPOSITE INDEX OF ACADEMIC LITERACY: BY FIRST LANGUAGE.

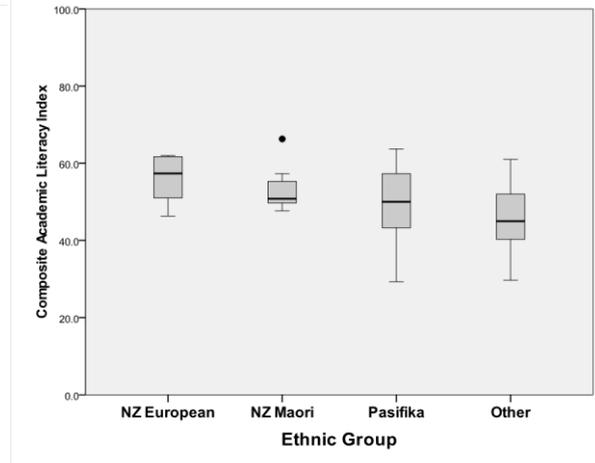


FIGURE 5.34 COMPOSITE INDEX OF ACADEMIC LITERACY: BY ETHNICITY.

Given the significant link between first language and the CIAL, and ethnicity and the CIAL, the number of second-language speakers in each of the ethnic groups was checked to explore a possible link between these results. All of the New Zealand European group and 84% of the New Zealand Māori group were native speakers of English, compared to 16% of the Other Ethnicities group who spoke English as their first language. One-third of the Pasifika group were native speakers of English. The first language of the participants which made up each ethnic group can be interpreted as a contributing factor to differences in the CIAL.

Neither the four categories of previous education ($F_{(df = 3, 81)} = 0.952, p = .419$) or of differing age groups ($F_{(df = 3, 87)} = .272, p = .846$) had significantly different means in the CIAL.

5.7 Summary

There was a very strong relationship between the CIAL and each of its three components of reading, writing and vocabulary. The relationship was stronger than those between the individual components.

The statistical analysis of the reading, writing and vocabulary scores separately by demographic subgroup highlighted a small number of significant differences. Males were found to score lower than females in both writing and reading. Those participants who chose information technology, science-based careers such as laboratory and food technicians, or electrical and mechanical engineering performed less well in the writing assessments.

In some of the analyses, ethnicity was identified as a significant factor, while in others it was not. In many cases lower or higher scores in reading, writing and vocabulary for particular ethnic groups were better explained by the language experience of the participant rather than ethnicity per se.

The consistent identification of the differences between scores in academic literacy among the participants in the three levels of the current programme points to the accuracy of the placement processes participants underwent on enrolment. All students sat a diagnostic test of literacy and numeracy skills and this was used to counsel students on future plans and to allocate them to programme levels. The means were recorded consistently for each level not only in the CIAL but also in each of the three components of reading, writing and vocabulary. The differences between the highest mean for the Level 4 Advanced Foundation programme participants, a mid-range mean for the Level 3 Foundation programme participants, and the lowest mean for the Level 2 Introduction to the Foundation programme participants were all statistically significant.

Two interesting results were that participants who had the most advanced previous education, the group with tertiary experience and qualifications, exhibited writing which was scored significantly lower than other groups, particularly than those who were in the lower secondary group, who had not continued with secondary education beyond a third year. The tertiary group were all speakers of languages other than English, and all had completed their degrees overseas in a language other than English. Similarly, those who had completed or at least continued to higher secondary school in New Zealand, nearly all of whom had English as their first language, and many of whom were from Pasifika backgrounds exhibited the highest concentration of Level 4 writing, the highest exhibited among the participants in this study.

Reading and writing have traditionally been seen as the components of academic literacy. Although vocabulary is recognised as a component in reading and writing, the inclusion of vocabulary as a separate and distinct factor, alongside reading and writing in academic literacy has been reinforced in this study. The moderate correlations between vocabulary and both reading and writing have shown that a combination of the three skills assists in the greater understanding of the skills required for participation in the post-secondary and tertiary academic environments. It has also been shown that the internal consistency of the CIAL would be more greatly reduced by the removal of vocabulary from the index, than by removing either reading or writing.

In the following chapter the CIAL and the academic literacy components will be compared with the self-efficacy beliefs of the participants.

Chapter 6. SELF-EFFICACY OF ACADEMIC LITERACY

DATA ANALYSIS

6.1. Introduction

This chapter discusses the analysis and results of the self-efficacy data collected in the study. Measurements were collected to examine the impact of self-efficacy as a factor in the academic results of adults enrolled in a bridging programme to prepare themselves for future academic study. A detailed description of the data is given and these are then compared with the demographic data in order to identify the extent that levels of self-efficacy vary according to the participants' demographic backgrounds. The three summary measures of the self-efficacy data and the composite index of self-efficacy (CISE) are compared with the academic literacy data from Chapter 5 and associations are drawn between them.

A survey of personal information regarding country of birth and age of arrival in New Zealand, previous educational experience, first language and planned future course and career acted as an introductory section collected on the same occasion as the survey on participants' self-efficacy for current academic literacy skills, their self-efficacy for further study in the course of their choice, and their readiness for that course.

6.2. Self-efficacy measurement tools

Self-efficacy is defined as the personally-held beliefs that each person has of his or her own ability to successfully achieve a particular goal. Ten measurements of self-efficacy were collected in this study. Each perception item asked participants to rate their confidence in performing a particular academic task, reaching a particular outcome level, and their own preparedness, expressed as a percentage based on the guide given to participants, which is reproduced in Figure 3.2.

Six items asked participants to rate themselves on self-belief in the academic skills of reading an academic text, understanding academic vocabulary, reading academic texts sufficiently quickly, writing an academic essay, spelling accurately, and achieving particular grade scores in the bridging programme currently enrolled in. These made up the first measure, the summary measure of self-efficacy for current academic literacy skills (SECALS) in the present course. A further three items eliciting ratings for self-efficacy of overall academic writing ability in a future course of their choice, their perception of the likelihood of selection to that course, and their efficacy for future performance in that course, made up the second measure, the summary measure of self-efficacy for future performance in an academic course (SEFPAC). The third measurement asked participants to rate their self-efficacy for readiness for future academic study (SERFAS).

As outlined in Chapter 3, Section 3.6.3, the ten questions used to construct the three measurements of self-efficacy were tested, adjusted and confirmed through a series of statistical analyses of internal consistency using Cronbach's alpha. The CISE was constructed from the nine scores of the first two summary measures, SECALS, and SEFPAC. The readiness measure, SERFAS, was considered separately.

The correlations between each of the six items in the summary measure of SECALS in the bridging programme are shown in Table 6.1.

TABLE 6.1

CORRELATIONS BETWEEN THE SIX ITEMS OF THE SELF-EFFICACY FOR ACADEMIC LITERACY SUMMARY MEASURE (SECALS)

<i>n</i> = 146		Self-efficacy Reading Speed	Self-efficacy Essay Writing	Self-efficacy Spelling	Self-efficacy Vocabulary	Self-efficacy Grade Score
Self-efficacy Academic Reading	<i>r</i> <i>p</i>	.736 <.001	.652 <.001	.579 <.001	.830 <.001	.607 <.001
Self-efficacy Reading Speed	<i>r</i> <i>p</i>	-	.599 <.001	.567 <.001	.734 <.001	.577 <.001
Self-efficacy Essay Writing	<i>r</i> <i>p</i>		-	.634 <.001	.634 <.001	.512 <.001
Self-efficacy Spelling	<i>r</i> <i>p</i>			-	.627 <.001	.464 <.001
Self-efficacy Vocabulary	<i>r</i> <i>p</i>				-	.548 <.001

These results show that the strongest relationship was between self-efficacy for academic reading and self-efficacy for vocabulary. Two other strong correlations were demonstrated between self-efficacy for reading speed and self-efficacy for academic reading, and self-efficacy for reading speed and self-efficacy for vocabulary.

The intercorrelations between each of the three items in the summary measure SEFPAC are shown in Table 6.2. The correlation results of this summary measure show that there are moderate links between each of the measures at a similar level to those in the first summary measure.

TABLE 6.2

CORRELATIONS BETWEEN THE THREE ITEMS OF THE SELF-EFFICACY FOR FUTURE COURSE ACADEMIC PERFORMANCE SUMMARY MEASURE (SEFPAC)

<i>n</i> = 146		Self-efficacy: Selection to course	Self-efficacy: Future Course Grade
Self-efficacy: Future writing	<i>r</i> <i>p</i>	.542 <i>p</i> < .001	.684 <i>p</i> < .001
Self-efficacy Selection to course	<i>r</i> <i>p</i>	-	.699 <i>p</i> < .001

6.3. Self-efficacy results

The analyses were based on questionnaires completed by 146 of the 212 participants of the study. Half of the 66 participants who did not complete the survey were in one of two classes where the lecturers felt they did not have sufficient time to allow the students to complete the survey in class time. These two classes were at the Level 4 Advanced Foundation programme. Although this did skew the data towards the Level 3 Foundation programme, 43% of respondents were Level 4 Advanced Foundation, 49% were Level 3 Foundation, and 8% Level 2 Introduction to Foundation, and these percentages were similar to those for the whole 212 participants of 47:46:7 respectively.

Descriptive statistics were calculated for each of the skills examined and perceptions reported. The ten items asked participants to rate their self-efficacy for their performance or ability by assessing how sure they were, at the time of the survey, of achieving a particular portion of a task. For example, in questions where there were six levels of accomplishment, such as reading an academic text, participants were asked to consider how sure they were that they could read an academic text and understand 10% of it and record a percentage response. Then to consider how sure they were able to read an academic text and understand 30% of it. This continued with understanding 50%, 70%, 90% and finally understanding 100% of the text. Over 90% of participants were 'Completely sure' that they could read an academic text and understand 10% of it. As the difficulty of the task increased, fewer participants were sure they could accomplish the task at the level of completion being asked. In every case participants rated themselves with higher self-efficacy in the easier tasks and with equal or decreasing self-efficacy as the tasks became more difficult.

Minima and maxima, quartiles and medians for each of the ten questions are given in the boxplots in Figure 6.1. In every question asked there were participants who reported 100% self-efficacy. In six of the ten items, at least one participant reported self-efficacy at 0%, and in the remaining four, two were at 2% and two at 3% self-efficacy. The method used for calculating these self-efficacy ratings is explained on page 51. The medians ranged from 60% ('Fairly sure I can') to 85% ('Pretty sure I can'). A criterion of 60% ('Fairly sure I can') was seen as expressing positive self-efficacy even though there is still an element of doubt in the self-efficacy. At 80% ('Pretty sure I can') there is a strong confidence in their ability to achieve the result, while a rating at the 40% mark ('Maybe I can') indicates a lack of confidence in being able to complete the task or perform the skill. The median scores for all ten achievements and academic skills were at or above the 60% mark showing overall a positive self-efficacy for at least half of the 146 participants.

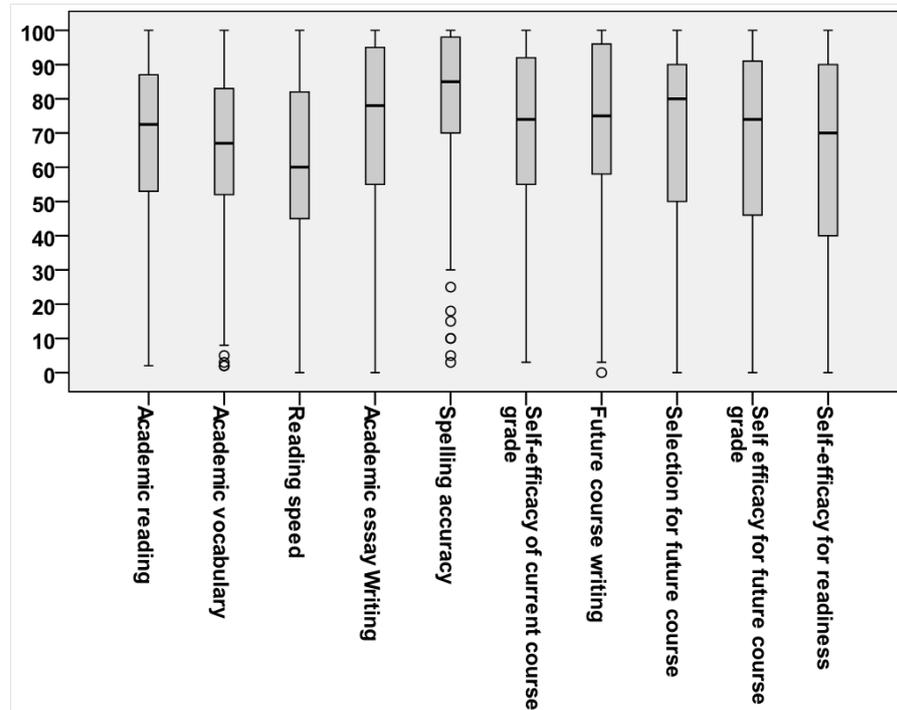


FIGURE 6.1 BOXPLOTS OF THE TEN SELF-EFFICACY QUESTIONS

Participants' responses indicated that their self-efficacy was the lowest with regard to their ability to read academic text fast enough (median score = 60%). The second lowest item, with a median score of 67%, was their self-efficacy for comprehension of academic vocabulary. Both of these skills are largely outside the control of the participants when they are presented with a set amount of reading material at a particular level which they have to read and comprehend, often within a particular time frame. By contrast, the skill where participants felt the highest self-efficacy was in accurately spelling words they had chosen in their writing. The participants were in control of word selection and when writing in a supervised situation, may well adopt a strategy of choosing to use words they were reasonably confident in spelling accurately. As many writing assignments have unsupervised preparation time before submission, participants may adopt the use of spell checkers and dictionaries which will increase spelling accuracy. These median scores are graphed in the summary boxplots in Figure 6.1.

Both means and medians are used in the report because medians are useful measures of central tendency when outliers are present in the data, whereas means give a measure for comparing items statistically. The grand mean for the ten self-efficacy items was 69.1%. However there was a marked difference between the combined means for the two self-efficacy summary measures (SECALS and SEFPAC) when compared with SERFAS. The combined mean for the six items of SECALS was 69.9%, and for the three items for SEFPAC, the mean was 70.0%. The mean for the SERFAS was 61.3%. These mean scores for the 146 participants were compared using a paired-samples *t*-test which showed that SERFAS was significantly different from both SECALS ($t_{(df = 145)} = 37.714, p < .001$) and SEFPAC ($t_{(df = 145)} = 40.163, p < .001$). In all three summary measures there were participants who indicated self-efficacy across the entire range from 0% to 100%.

The six items which constitute the summary measure SECALS are displayed in the boxplots in Figure 6.2. The skills with the two lowest medians, reading speed (60%) and vocabulary (67%), together with the highest, for spelling accuracy (85%), plus essay writing (78%), academic reading (72.5%) and the estimate of current course grade (74%), illustrate the range of differences in participants' self-efficacy for the particular skills.

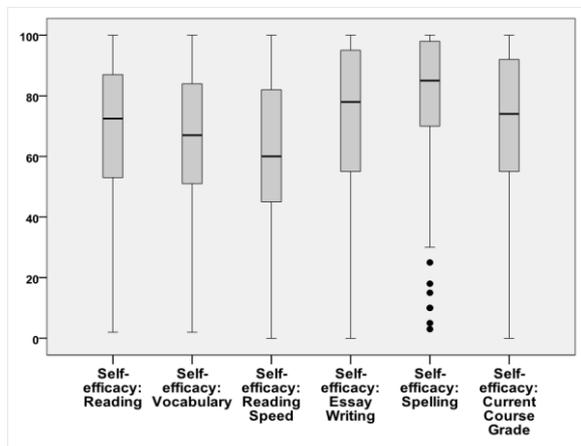


FIGURE 6.2 BOXPLOTS FOR SELF-EFFICACY FOR SIX INDIVIDUAL ITEMS OF ACADEMIC LITERACY SKILLS (SECALS)



FIGURE 6.3 BOXPLOT FOR COMBINED SCORES FOR SELF-EFFICACY FOR ACADEMIC LITERACY SKILLS (SECALS)

The amalgamation of these six individual items of self-efficacy for current academic literacy skills into the summary measure SECALS is summarised in the boxplot in Figure 6.3. The median was 72% and the mean was 70.07%. One participant rated the maximum 100%. There were five outliers including the lowest self-efficacy rating of 11%. The lower quartile was 60% and the upper quartile was 85%.

When looking at the three individual items for SEFPAC—self-efficacy for future course writing; for selection in the future course; and for future course grades, the range of participants' scores went from 0% to 100%. Although the medians are fairly similar at 74%, 80% and 75% respectively, the lower quartiles of the latter two items were the lowest of the ten self-efficacy items.

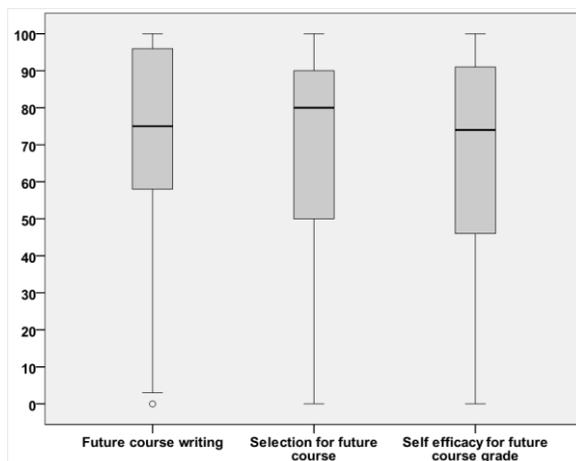


FIGURE 6.4 BOXPLOTS FOR THREE INDIVIDUAL ITEMS FOR SELF-EFFICACY FOR FUTURE PERFORMANCE IN AN ACADEMIC COURSE (SEFPAC)



FIGURE 6.5 BOXPLOTS FOR COMBINED SCORES FOR FOR SELF-EFFICACY FOR FUTURE PERFORMANCE IN AN ACADEMIC COURSE (SEFPAC)

The boxplot for the summary measures of the three items of future course efficacy is displayed in Figure 6.5. The median was 72%, and the mean 69.95%, both extremely similar to those of the summary measure for self-efficacy for academic literacy in the current programme. The only outlier score was one participant who rated their own self-efficacy across all three individual items at 0%, (*Cannot at all*).

The strong relationship between the summary measures, SECALS and SEFPAC confirmed by correlation ($r_{(n=148)} = .740, p < .001$) showed that participants ranked themselves at similar levels and order for self-efficacy in current academic literacy skills and in their expectation to enter and complete the future course of their choice. For this reason these two summary measures were combined to give a single composite score which was then standardised to become the composite index of self-efficacy (CISE). The T-scores of the composite measures for self-efficacy for the 146 participants ranged from 21.0 to 65.8 out of 100. The CISE and the two summary components which make it up were considered in the analyses. The similarity in the means of the nine items is demonstrated in Figure 6.6.

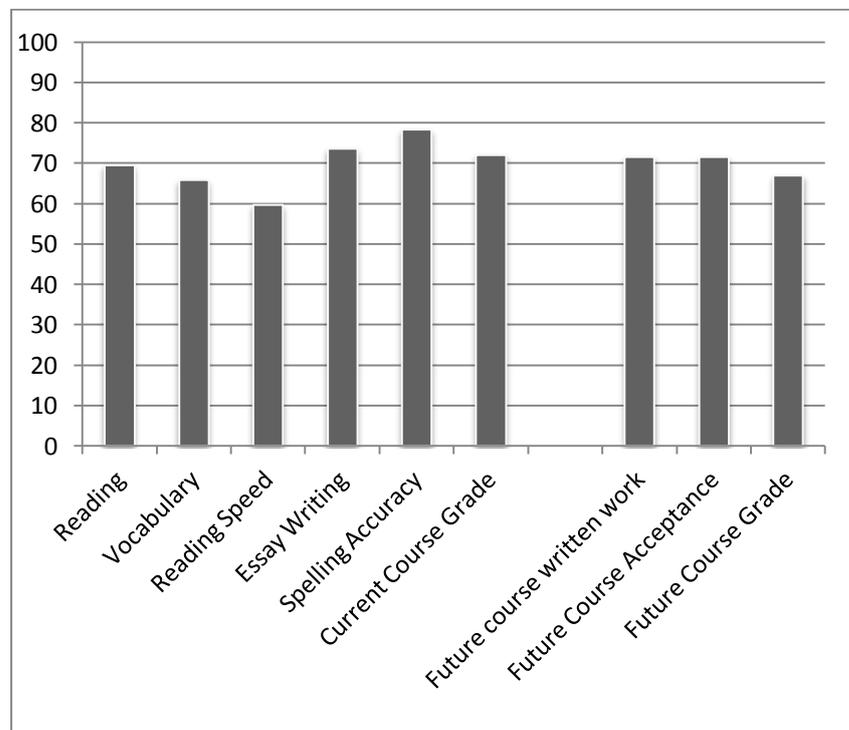


FIGURE 6.6 MEAN SCORES OF ITEMS IN SELF-EFFICACY FOR CURRENT ACADEMIC LITERACY SKILLS (SECALS) AND SELF-EFFICACY FOR FUTURE PERFORMANCE IN AN ACADEMIC COURSE (SEFPAC)

Participants exhibited a much different pattern of self-efficacy for the third of the three summary measures, SERFAC. The boxplot of the summary measure, in Figure 6.7, shows the inter-quartile range of 50% stretching from 40% to 90% was wider than for the other two summary measures, especially the greater distance from the median to the lower quartile. While the median of 70% is similar to that of the other two summary measures, the mean of 61.32%—over 8.5% lower than either of the other two means—resulted from the greater proportion of participants in the lower percentage levels.



FIGURE 6.7 BOXPLOT FOR SELF-EFFICACY FOR READINESS FOR FUTURE ACADEMIC STUDY (SERFAS)

The marked difference between the nine other items that make up the CISE and the SERFAS can be more clearly seen in the difference in frequency distributions shown for the readiness data (Figure 6.8) and the other nine items which make up the CISE (Figure 6.9).

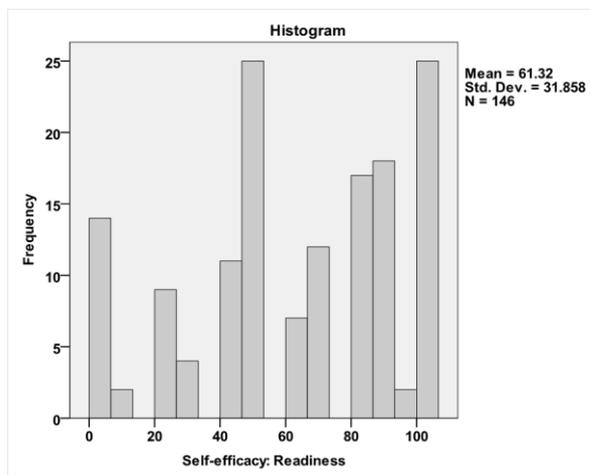


FIGURE 6.8 DISTRIBUTION OF SELF-EFFICACY FOR READINESS FOR A FUTURE ACADEMIC COURSE (SERFAS)

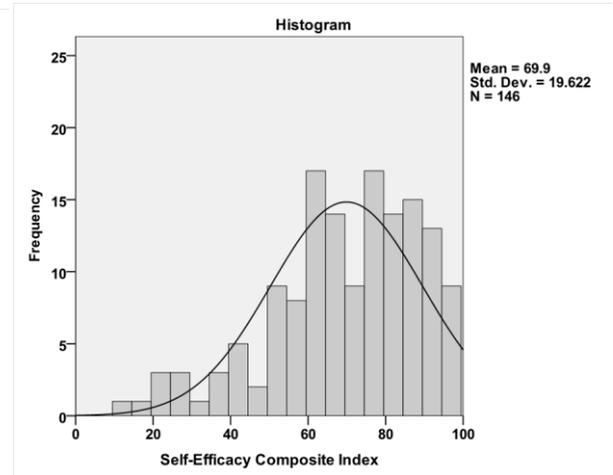


FIGURE 6.9 DISTRIBUTION OF SCORES FOR ALL OTHER NINE ITEMS FOR SELF-EFFICACY (CISE)

The distribution of ratings by participants for SERFAS was in contrast to the clustering of reports of moderate to strong self-efficacy from the 60% mark onwards in the CISE. There was a concentration of participants reporting SERFAS at the 0% mark, meaning they felt that they were not at all ready for their future course, together with the mode at only 50% readiness. More of the participants reported strong self-efficacy for readiness at 80%, 90% and 100% mark than the CISE

The CISE and its two parts, SECALS and SEFPAC, and SERFAS were then each examined separately with the demographic data to investigate any possible differences. These same self-efficacy measures were also compared with the academic literacy data to explore possible relationships.

6.3.1. Self-efficacy results by demographic groups

The mean scores for CISE, SECALS, SEFPAC and SERFAS were analysed in terms of the seven demographic factors of gender, age, ethnicity, first language, previous education, current bridging programme level and future course plan. Independent-samples *t*-tests were used for gender and first language, and a one-way ANOVA for the other five categories, where there were three or more subcategories.

There were no significant differences for the demographic categories of gender, ethnicity or planned future course for SECALS, SEFPAC, or SERFAS. The statistical tests comparing the mean scores of self-efficacy measurements found that four subcategories did reveal differences. Current bridging programme and age showed differences in the SECALS and SEFPAC measures; previous education experience showed differences in SEFPAC and SERFAS; and first language of participants showed differences in the SERFAS measure. The details of these are given.

TABLE 6.3

MEAN BONFERRONI POST-HOC DIFFERENCES FOR SELF-EFFICACY MEASURES SECALS, SEFPAC AND SERFAS BETWEEN CURRENT BRIDGING PROGRAMME LEVELS

		Level 3 Foundation	Level 2 Introduction
Level 4 Advanced			
Self-efficacy for Current Academic Literacy Skills (SECALS)	MD = 52.667 <i>p</i> = .003		162.861 <.001
Self-efficacy for Future Performance in an Academic Course (SEFPAC)	MD = 23.147 <i>p</i> = .655		105.956 = .010
Self-efficacy Readiness for Future Academic Study (SERFAS)	MD = 103.331 <i>p</i> = 1.00		11.317 = .842
Level 3 Foundation			
Self-efficacy for Current Academic Literacy Skills (SECALS)	MD = <i>p</i> = -		110.194 = .001
Self-efficacy for Future Performance in an Academic Course (SEFPAC)	MD = <i>p</i> = -		82.814 = .062
Self-efficacy Readiness for Future Academic Study (SERFAS)	MD = <i>p</i> = -		11.214 = .838

A one-way ANOVA revealed that differences existed in the means of the different levels of the current bridging programme ($F_{(df = 2,145)} = 16.347, p < .001$) for SECALS. The Bonferroni post-hoc test identified significant differences between all three programme levels for SECALS, shown in Table 6.3.

Significant differences were also shown by an ANOVA ($F_{(df = 2,143)} = 4.497, p = .013$) in SEFPAC. The

Bonferroni post-hoc test again showed significant differences, but here in the mean scores between Level 4 and Level 2 only (See Table 6.3).

A one-way ANOVA of the combination of SECALS and SEFPAC into the CISE recorded a similar significant difference in the means between the self-efficacy levels of participants in the Level 2 and 4 programmes ($F_{(df = 2,143)} = 11.887, p < .001$). As CISE is a combination of SECALS and SEFPAC this result was expected, however, there was no significant difference between programme levels in SERFAS, again emphasising self-efficacy for readiness as a separate entity.

The mean scores given in Table 6.4 indicated that participants in lower programme levels reported lower levels of SECALS and SEFPAC. It was interesting to note that the strong stepped differences in SECALS between the Level 4, 3, and 2 programmes were not present in SERFAS where a one-way ANOVA revealed no significant difference ($F_{(df = 2,143)} = .632, p = .533$) between programme levels and a virtually identical mean between Levels 3 and 4. This means that participants in these two programmes felt they had similar strengths of readiness for future academic study.

TABLE 6.4

MEAN SCORES FOR SELF-EFFICACY MEASURES BETWEEN CURRENT BRIDGING PROGRAMME LEVELS

MEAN SCORES	Level 4 Advanced (<i>n</i> = 62)	Level 3 Foundation (<i>n</i> 73)	Level 2 Introduction (<i>n</i> = 11)
Self-efficacy for Current Academic Literacy Skills (SECALS)	76%	67%	48%
Self-efficacy for Future Performance in an Academic Course (SEFPAC)	77%	67%	46%
Self-efficacy for Readiness for Future Academic Study (SERFAS)	62%	62%	51%
Composite Index of Self-efficacy (CISE)	77%	67%	47%

The one-way ANOVA ($F_{(df = 3,142)} = 6.858, p < .001$) revealed that there was at least one significant age group difference in the SECALS. The Bonferroni post-hoc test identified the eldest age subgroup category of 46-65 to have significantly lower self-efficacy scores than the other three. Mean differences for this age subgroup and the third age subgroup (26-45) was at $-20.435, p = .004$; the youngest age subgroup (16-19) was larger at $-23.791, p < .001$; and the second age subgroup (20-25) was the largest at $-25.718, p < .001$. These differences were similar but not significant with the SEFPAC measure. Results, however, were significant with the CISE ($F_{(df = 3,142)} = 5.365, p = .002$). The mean differences were also between the eldest age group and three younger age groups (MD $-21.480, p = .002$ for the 16-19 year-olds; MD $-23.026, p = .001$ for the 20-25 year-olds; MD $-17.909, p = .018$ for the 26-45 year-olds).

There were no significant differences recorded between age groups in the one-way ANOVA for SERFAS ($F_{(df = 2,143)} = .334, p = .801$). Again this shows that the spread of self-efficacy for readiness

for future academic study could just as easily be at any level for any participants in any of the age groups.

When examining the role of previous education experience there were no significant differences found between any of the four groups and participants' scores for SECALS ($F_{(df = 4,141)} = 1.747, p = .143$). There was a moderate difference recorded in the one-way ANOVA ($F_{(df = 3,138)} = 3.293, p = .023$) for SEFPAC for previous educational experience. The participants with previous upper secondary experience had higher self-efficacy for future course success, than those with lower secondary experience only, which was confirmed by the Bonferroni post-hoc test (MD 12.759, $p = .020$). Similar results were returned for the CISE in previous educational level. The ANOVA ($F_{(df = 3,138)} = 3.095, p = .029$), and the mean difference between the upper secondary and the lower secondary group was +10.739, $p = .020$ on the Bonferroni post-hoc test.

Prior success at secondary school led to higher self-efficacy in readiness for a future course. The participants with upper secondary school experience reported that they were significantly more ready for a future academic course than those participants who had lower secondary experience. The 65 participants in the upper secondary group recorded a mean score of 69.82%, a difference of 17.48% above the lower secondary group mean of 52.34%, which was confirmed by the Bonferroni post-hoc test as significant at $p = .020$. The upper secondary group also exhibited higher SEFPAC scores and between the upper and lower secondary groups. The mean for participants with tertiary experience was the highest self-efficacy for readiness of the four groups but no result was returned due to the small numbers in the subgroup.

While participants who were speakers of other languages showed absolutely no difference from native speakers for the CISE, and little for the CISE's two summary measures, SECALS and SEFPAC, there was a significantly higher SERFAS for speakers of a first language other than English confirmed by an independent-samples t -test ($t_{(df = 144)} = 2.546, p = .012$).

6.4. Self-efficacy for current academic literacy skills (SECALS)

Participants rated their self-efficacy level in each of the six questions asking for reports of self-efficacy for academic literacy skills in the current course. The self-efficacy survey tool used is reproduced in Appendix C. There were six completion levels (10%, 30%, 50%, 70%, 90% and 100%) asked in the first three items, four (some, half, most, all) for the next two items, and six (D, C, B, B+, A, A+) for the sixth item. Participants were asked to rate how sure they were that they could perform the target task or reach the target score at each of the levels, on the rating chart reproduced in Figure 3.2. Table 6.5 gives the percentage of participants who rated themselves at 100% ('Completely sure') of performing the given task at each performance level.

In each item more participants rated themselves at 100% for the more easily performed levels. For example, in expressing their ability to read academic texts and understand the contents, when asked how sure they were that could read an academic book or article and understand at least 10% of it, 131 (89%) of the 146 survey participants reported they were 'completely sure'. When asked the same question and understanding 30% of the academic book or article, 105 (71%) said they were 'completely sure'. This 18% drop, represents the 26 participants who had rated themselves

'completely sure' at 10% understanding but at a lesser sureness rating at the 30% understanding performance level. The expected pattern for self-efficacy is that the numbers will drop for each achievement level as the required performance level increases. There will be lower self-efficacy for the task, as it becomes more difficult.

TABLE 6.5

THE PERCENTAGE OF PARTICIPANTS RATING THEIR SELF-EFFICACY AT 100% AT GIVEN LEVELS IN THE SIX ITEMS OF THE SELF-EFFICACY FOR CURRENT ACADEMIC LITERACY SKILLS (SECALS).

Number of participants (n = 146)	<u>at 10%</u>	<u>at 30%</u>	<u>at 50%</u>	<u>at 70%</u>	<u>at 90%</u>	<u>at 100%</u>
Reading	131	105	84	50	29	16
Vocabulary	127	97	70	46	22	5
Reading Speed	114	86	59	30	13	4
	<u>Some</u>		<u>half</u>		<u>most</u>	<u>all</u>
Essay Writing	129		94		54	31
Spelling	132		108		69	30
	<u>D</u>	<u>C</u>	<u>B</u>	<u>B+</u>	<u>A</u>	<u>A+</u>
Future Grade Score	137	119	81	56	34	16

One participant believed it was possible to achieve reading, vocabulary and reading speed at 100%, essay writing and spelling at 'all', and receive an A+ in the present bridging course. There were substantially more participants 'completely sure' of being able to write all of an essay and spell all of the words they would use in an essay (31 and 30 respectively) than the 16 for both Reading and Current Course Grade, or the five for Vocabulary, or the four participants for Reading Speed.

A further analysis on these data was made by taking all of the ratings at each of the performance levels for the six items and calculating an overall mean for each rather than just the number rating themselves as 'completely sure'. These are displayed in Table 6.6.

Table 6.6 illustrates that, generally, participants were less sure that they could read at a suitably rapid speed than they could comprehend vocabulary, and were less sure that they could comprehend vocabulary than read and understand academic texts. Although calculated differently, the grand mean scores graphed Figure 6.1 could be obtained by adding the percentage score for each item in Table 6.6 and dividing the total by the number of performance levels. Participants had higher self-efficacy for writing all of an essay (50%), and interestingly, correctly spelling all words used in their writing (53%), than understanding all (26%) or even most (45%) of the vocabulary in articles and textbooks in the current course, or reading quickly enough all of a course test (26%), 90% of a course test (38%) or even 70% of a course test (52%).

TABLE 6.6

THE MEAN PERCENTAGE OF PARTICIPANTS' RATINGS OF SELF-EFFICACY AT GIVEN LEVELS IN THE SIX ITEMS OF THE SELF-EFFICACY FOR CURRENT ACADEMIC LITERACY SKILLS (SECALS).

Number of participants (n = 146): Mean %	<u>at 10%</u>	<u>at 30%</u>	<u>at 50%</u>	<u>at 70%</u>	<u>at 90%</u>	<u>at 100%</u>
Reading	95%	91%	81 %	65%	50%	35%
Vocabulary	95%	90%	77%	62%	45%	26%
Reading Speed	91%	82%	70%	52%	38%	26%
	<u>Some</u>		<u>half</u>		<u>most</u>	<u>all</u>
Essay Writing	95%		83%		67%	50%
Spelling	96%		88%		76%	53%
	<u>D</u>	<u>C</u>	<u>B</u>	<u>B+</u>	<u>A</u>	<u>A+</u>
Future Grade Score	98%	93%	82%	67%	52%	40%

The ratings between 91% and 98% for the most easily accomplished performance level and between 82% and 93% for the second most easily performed, show that most participants felt they could operate in the current course environment to some degree. The percentages then dropped approximately 10% per performance level. It would be expected that A grades would be fairly difficult to attain and perhaps participants who had a self-belief that they would achieve such a grade had already received in-course grades putting them on track to reach this level in the final count. Even so a mean rating of 40% for receiving an A+ grade seems overly optimistic. All participants knew the level of the programme they were in, and understood what was meant by each of the grades they were ranking themselves against, so it seems surprising that the rating was as high as it was. The accuracy of participants' self-efficacy beliefs about the GSA achieved in the bridging programme as compared to the actual grades they received, are discussed in Chapter 7.

The data were analysed further by programme level. The percentages of participants rating themselves at 100% (Completely sure) of obtaining a particular grade, are detailed for all three programme levels in Table 6.7. The Level 2 Introduction to Foundation participants had the lowest self-efficacy beliefs. This group of 11 participants was from a class of 14 in a programme providing

TABLE 6.7

PERCENTAGE OF PARTICIPANTS AT 100% SELF-EFFICACY FOR GRADE LEVEL BY PROGRAMME

Percentage of Group	n	D	C	B	B+	A	A+
All participants	146	93%	81%	55%	38%	23%	11%
Level 4 – Advanced Foundation	63	94%	83%	56%	38%	22%	13%
Level 3 – Foundation	72	94%	83%	57%	39%	22%	10%
Level 2 – Introduction to Foundation	11	82%	55%	36%	27%	27%	9%

substantial support in improving academic literacy and personal confidence. Only six (55%) felt sure they would receive a C grade, the grade required to pass the course. It should be remembered that

the self-efficacy perception survey took place in the first term of the semester when the full impact of this support may not have had a large effect to that date.

The participants from the Level 3 Foundation programme and the Level 4 Advanced Foundation programme exhibited very similar percentages to each other at each level of attainment.

6.4.1. Self-efficacy for current academic literacy skills (SECALS) and academic literacy measurements

Each of the six self-efficacy items in the summary measure self-efficacy for current academic literacy skills (SECALS) was correlated with the standardised T-scores for reading, writing and vocabulary, and the composite index of academic literacy (CIAL) outlined in Chapter 5. These are shown in Table 6.8.

TABLE 6.8

CORRELATIONS BETWEEN SELF-EFFICACY FOR ACADEMIC LITERACY (SECALS) AND ACADEMIC LITERACY COMPONENT AND CIAL MEASUREMENTS.

Self-efficacy	<i>n</i>	Academic Literacy Measurements			
		Reading	Writing	Vocabulary	CIAL
for Academic Reading	78	109	89	66	
	<i>r</i>	.268	.311	.324	.442
	<i>p</i>	= .018	= .001	= .002	<.001
for Vocabulary	<i>r</i>	.217	.318	.287	.336
	<i>p</i>	= .056	= .001	= .006	=.006
for Reading Speed	<i>r</i>	.259	.279	.268	.423
	<i>p</i>	= .022	= .003	= .011	<.001
for Essay Writing	<i>r</i>	.226	.488	.317	.461
	<i>p</i>	= .046	<.001	= .002	<.001
for Spelling	<i>r</i>	.331	.480	.217	.400
	<i>p</i>	= .003	<.001	= .041	<.001
for Grade Score	<i>r</i>	.135	.175	.089	.262
	<i>p</i>	= .240	= .068	= .405	=.035

Significant correlations were found for 20 of the 24 possible combinations of self-efficacy and academic literacy scores. The highest co-efficients were for the moderate relationships between self-efficacy for essay writing and the participants' actual writing results ($r = .488$), and self-efficacy for the accurate spelling of words used and the participants' actual writing result ($r = .480$). Similar co-efficients at the moderate level were found between the CIAL and self-efficacy for academic reading, reading speed, and essay writing, and spelling accuracy. Overall the CIAL correlated modestly with all six self-efficacy items. The relationship between self-efficacy for current academic literacy skills and actual academic literacy skills was established.

6.5. Self-efficacy for future performance in an academic course (SEFPAC)

The summary measure of SEFPAC was constructed by combining three items from the survey. These were self-efficacy for coping with the written work required in an academic tertiary course; for being selected for an academic course; and for the grade participants believed they would perform at in their future academic course.

The mean score for participants' self-efficacy beliefs for successful performance in a future academic course (SEFPAC) (70.01) was very similar to that for their SECALS (69.83). They were positive about their ability to perform in the future course of their choice (mean = 67.0) and in being able to produce all of the written work required for it (mean = 71.5). There was similar confidence among participants that they would be accepted for their future course (mean = 71.5).

6.5.1. Self-efficacy for future performance in an academic course (SEFPAC) and academic literacy measurements

Self-efficacy for Future Course Performance was correlated with the three components of academic literacy, reading, writing, vocabulary, and with the CIAL. Self-efficacy for writing performance in a future course correlated modestly with the actual writing, the vocabulary score and CIAL. Self-efficacy in overall performance in a future course (SEFPAC) correlated slightly with the writing measurement and CIAL. These are shown in Table 6.9.

TABLE 6.9

*CORRELATION BETWEEN SELF-EFFICACY FOR FUTURE PERFORMANCE IN AN ACADEMIC COURSE (SEFPAC)
AND ACADEMIC LITERACY MEASUREMENTS.*

	<i>n</i>	<u>Academic Literacy Measurements</u>			
		Reading	Writing	Vocabulary	CIAL
<u>Self-efficacy</u>		<u>78</u>	<u>109</u>	<u>89</u>	<u>66</u>
for Writing in a	<i>r</i>	.213	.492	.353	.412
Future Course	<i>p</i>	= .062	<.001	= .001	= .001
for Selection into a	<i>r</i>	-.010	.185	-.083	.072
Future Course	<i>p</i>	= .930	= .054	= .440	= .567
for Grade Score in a	<i>r</i>	.163	.274	.020	.291
Future Course	<i>p</i>	= .155	= .004	= .855	= .019

There were negative correlations for participants' self-efficacy for selection into the course of their choice and the standardised scores for the reading comprehension and the vocabulary test, but none were statistically significant. The standardised writing score, the CIAL, and the standardised vocabulary score had the best links to participants' self-efficacy for future performance, particularly self-efficacy for writing.

There was a moderate correlation between the CIAL and the CISE ($r_{(n=66)} = .399, p = .001$). The correlation suggests that to some extent some participants had a realistic understanding of their academic ability. As detailed, the CISE included both SECALS and SEFPAC. Further analysis of

these two separate summary measures showed that there was a moderate relationship between the participants' SECALS and the CIAL ($r_{(n=66)} = .461, p < .001$), but that between SEFPAC and CIAL the correlation was not significant. This adds weight to the finding in 6.5.1 that self-efficacy for there is a relationship between self-efficacy for current academic literacy skills and actual academic literacy skills

6.6. Self-efficacy for readiness for future academic study (SERFAS)

The analyses of the relationships between the ten self-efficacy items confirmed that self-efficacy beliefs about readiness for future study was a different construct from self-efficacy about the present course or a future course. The mean scores given in Section 6.3 for SERFAS (61.32%) were over 8.5% lower for than SECALS (69.83%) and SEFPAC (70.01%). The frequency histograms in Figure 6.8 and Figure 6.9 show the markedly different distribution of scores. This is partially due to participants' clustering on the 20% interval points with high collections at 0%, 50%, 80-90% and 100%. More important though is the feeling expressed by 14 of the 146 participants that they were not at all ready for the future course they wanted to enrol in, rated themselves at 0% self-efficacy. The range of 100% is clearly shown in Figure 6.7, but the summary measures of the median and quartiles disguise the true distribution shown in Figure 6.8.

As explained previously only the students enrolled in the Level 4 Advanced Foundation course could be said to be focused on enrolling in a future academic course in the next semester. Participants in the Foundation programme would normally have another semester before enrolment in a future course and those in the Introduction to Foundation programme, two more.

On examining the frequency graphs for the three programme levels, the 11 Level 2 Introduction to Foundation participants were spread across the range from 0% to 90%, with a median of 50% for SERFAS. The participants in the other two programmes, the Level 3 Foundation programme and the Level 4 Advanced Foundation programme ranged from 0% right to 100%. The mean for both was 62. The histograms for the Level 3 Foundation programme and the Level 4 Advanced Foundation programme are given in Figure 6.10 and 6.11.

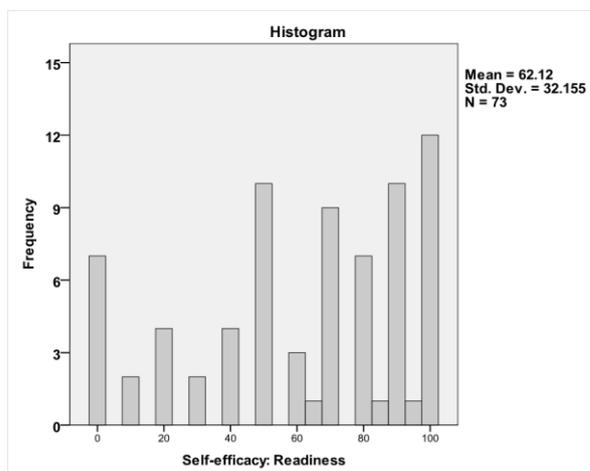


FIGURE 6.10 DISTRIBUTION OF SELF-EFFICACY FOR READINESS FOR FUTURE ACADEMIC STUDY: (SERFAS): FOUNDATION

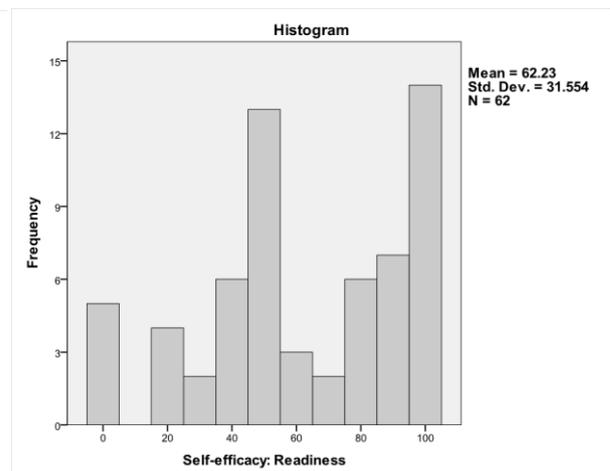


FIGURE 6.11 DISTRIBUTION OF SELF-EFFICACY FOR READINESS FOR FUTURE ACADEMIC STUDY: (SERFAS): ADVANCED FOUNDATION

Both levels had the modal point at 100%, the ‘completely ready’ mark. These ‘completely ready’ scores were made up of 12 of the 73 Level 3 Foundation participants, and 13 from the 62 Level 4 Advanced Foundation participants. Although this gives a higher percentage for the Advanced Foundation participants (21%) compared to the Foundation programme participants (16%), it is still of interest that so many of the Foundation programme, rated themselves as completely ready at the time of the survey when they were still six months away from even considering the option of future academic study.

One distinctive feature of the 25 participants who rated themselves as completely ready for further study in an academic course was that 10 of the 13 Advanced Foundation participants (77%), and 10 of the 12 Foundation participants (83%) were speakers of a first language other than English, far higher than the overall proportions of 49% in the Advanced Foundation programme and 53% in the Foundation programme.

Finally, SERFAS was correlated with the components of academic literacy and with the CIAL. These are shown in Table 6.10 and reveal that there was virtually no relationship between participants expressing readiness for further study and any of the components of academic literacy—reading, writing, vocabulary—, or the composite index, CIAL.

TABLE 6.10.

CORRELATION BETWEEN SELF-EFFICACY FOR READINESS FOR FUTURE ACADEMIC STUDY (SERFAS) AND ACADEMIC LITERACY MEASUREMENTS.

		<u>Academic Literacy Measurements</u>			
		Reading	Writing	Vocabulary	CIAL
<u>Self-efficacy</u>	<i>n</i>	78	109	89	66
for Readiness of	<i>r</i>	-.054	.049	-.184	.002
Future Academic Study	<i>p</i>	= .639	= .611	= .084	= .989

Similarly, SERFAS was correlated with the two summary measures of self-efficacy. Moderate relationships between participants expressing readiness for further study and SECALS and SEFPAC are shown in Table 6.11.

TABLE 6.11.

CORRELATION BETWEEN SELF-EFFICACY FOR READINESS FOR FUTURE ACADEMIC STUDY (SERFAS) AND SELF-EFFICACY MEASURES (SECALS AND SEFPAC)

		<u>Self-efficacy measures</u>	
		Self-efficacy for Current Academic Literacy Skills	Self-efficacy for Future Performance in a Academic Course
<u>Self-efficacy</u>	<i>n</i>	146	146
for Readiness of	<i>r</i>	.474	.698
Future Academic Study	<i>p</i>	<.001	<.001

6.7. Summary

Items of self-efficacy correlated moderately with each of the other self-efficacy items. There were also moderate correlations between self-efficacy for academic literacy skills in the current course and the actual scores for the writing and vocabulary components. There was a modest correlation with the reading component of the academic literacy measurements. The self-efficacy for success in a future course had a moderate relationship to the academic writing component only. Academic writing ability and wide vocabulary knowledge show a relationship for both academic ability and self-efficacy. The moderate correlation between academic literacy and self-efficacy for academic literacy suggests that many participants had a reasonable understanding of their academic ability.

Self-efficacy data showed that lower self-efficacy was recorded by participants from the oldest age group (46-65), and in the participants enrolled in the Introduction of Foundation programme.

The group with noticeably higher self-efficacy than academic literacy were participants who spoke a first language other than English and who were classified as Other Ethnicities, especially the small group who had completed some tertiary education before arriving in New Zealand. It appears that speakers of first languages other than English, and immigrants are more likely to have higher self-efficacy for academic ability than they actually show in test situations.

Self-efficacy for readiness for a future academic course (SERFAS) appears to be a different construct from the other two self-efficacy summary measures (SECALS and SEFPAC). Overall, the self-efficacy for Readiness is lower and with a greater range. Readiness relates moderately to other self-efficacy items but not at all to academic literacy at any programme level.

Chapter 7. ACHIEVEMENT OUTCOME DATA ANALYSIS

7.1 Introduction

This chapter describes the data collected from both students and institutional records which were used to measure the achievement and personal outcomes of the adults who enrolled in a bridging programme in order to prepare themselves for future study. Participants signed agreements to allow data to be collected from their institutional records. Two sets of data were collected to assess outcome. These were participants' own reports and institutional records of the grades awarded at the end of the bridging programme, and participants' own reports and institutional records of their subsequent enrolment in a future course. The purpose of collecting the data was to provide information which could measure success in an independent and objective manner.

Detailed analyses of the grades awarded at the end of the bridging programme and of the acceptance outcome of participants into a future course of their choice are given and the data are described by summary descriptive statistics of convergence, dispersion and variation. The means of these data are then compared with the demographic background data of the participants. The academic literacy and self-efficacy data are examined to establish the extent to which they relate to the academic outcomes of participants.

7.2 Programme grades

For this study, the end-of-semester course grades of all assessed courses participants were enrolled in were used to measure an achievement outcome. Students chose their own courses although general guidelines on courses useful to their future course plan and the need for particular skills assessed at an initial diagnostic test, were given at enrolment. Students enrolled in between four and eight courses. There were three bridging programmes offered to students: a three-semester, Level 2 Introduction to Foundation programme; a two-semester, Level 3 Foundation programme; and a one-semester, Level 4 Advanced Foundation programme. If a particular skill required development at a level different from the programme enrolled in, the student could take courses additional to those at a particular programme level.

Grades for assessed courses were awarded ranging from F, E, D (fail grades) through C-, C, C+, B-, B, B+, A-, A to A+ (pass grades). There were also aegrotat passes where a number of absences had been authorised, and conceded Passes in special and particular circumstances. Courses which require attendance and which had no summative assessment were awarded with P for pass, M for merit pass, or F for fail. Where a student formally withdrew from a course the result was recorded as WD. Where a student failed to complete sufficient assessment to be awarded a fail grade and did not withdraw, the result was recorded as NC, not complete.

With 12 grade divisions between F and A+, a numerical value from 1 to 12 was allocated for each grade awarded for an assessable course. These were totalled and divided by the number of grades counted to obtain a Grade Score Average (GSA). For this study, all assessed courses a participant was enrolled in were counted. Non-summative assessed courses, courses participants had withdrawn from, and awards of aegrotat or conceded passes were not counted. Regarding non-summative

awards of P as equivalent to a C pass was considered, but this affected students whose GSA was higher than C. An equivalent grade to assess an M pass as also proved problematic and consequently formatively assessed courses which were awarded F, P or M were not counted toward the GSA.

Courses which were not completed and which were awarded an NC were given a zero score, but were counted as a course for the GSA. Any NC score dramatically lowered the overall GSA of the student. So great was the potential effect of these that a second analysis of the data was performed excluding the NC courses in the calculations (see Section 7.3.1), to test if the Revised Grade Score Average (RGSA) significantly altered participant's results outcome.

7.3 Grade score average (GSA)

From the 212 students in the sample, 205 sets of results for the bridging programme were collected as seven had enrolment irregularities and had no results issued. The median across all 205 participants was 7.0, a score reflecting an overall B- grade. The minimum score of 0 was recorded by seven participants. All of these—four females in the Advanced Foundation programme and three males from the Foundation level programme—failed to complete any of the 33 courses they collectively were enrolled in. One participant, from the Introduction to Foundation programme, attained the highest possible score of 12.0 by receiving an A+ grade for each of the five assessed courses of the programme.

The frequency distribution graph (Figure 7.1) shows the mean grade was 6.3 representing a C+ grade with a standard deviation of 3.29 band scores. A greater concentration of scores above the mean reflected the 74% pass rate. Parametric tests were used in statistical analyses as a one-sample Kolmogorov-Smirnov value ($Z_{(df = 205)} = 1.220, p = 0.102$) indicated that although the data appeared to be platykurtic they were not sufficiently different from a normal distribution.

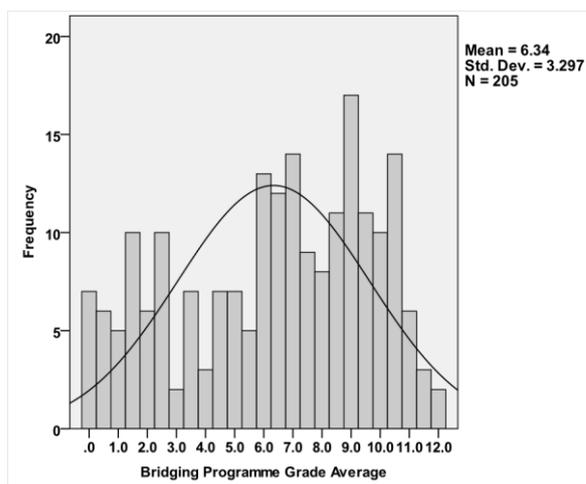


FIGURE 7.1 FREQUENCY DISTRIBUTION: GRADE SCORE AVERAGE (GSA)

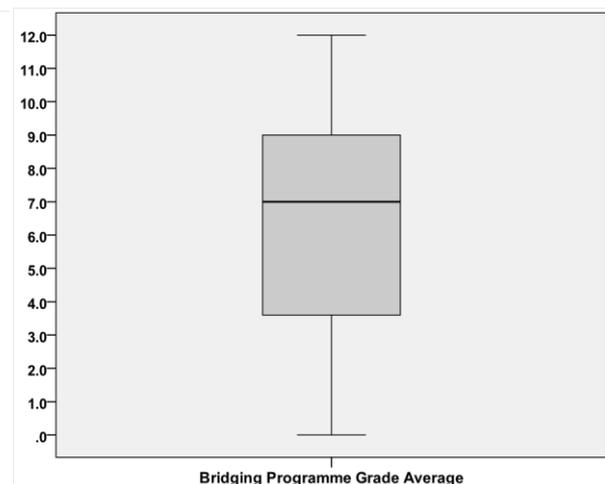


FIGURE 7.2 BOXPLOT: GRADE SCORE AVERAGE (GSA)

The boxplot (Figure 7.2) presents the five summary measurements of the minimum 0.0, lower quartile 3.5, median 7.0, upper quartile 9.1, and maximum 12.0. There were no outliers beyond the standard distribution of plus or minus 1.5 standard deviations. Overall, 151 participants (74%) received a C-

grade or higher, which constituted a pass. The inter-quartile range of 5.6 between the upper quartile representing B+ and the lower quartile halfway between a D and a C- represented just under half of the 12 possible scores.

7.3.1 Grade score averages by demographic group

The GSAs were examined in terms of the seven demographic factors of gender, age, ethnicity, first language, previous education, current bridging programme level and future course plan. As with other variables analysed by demographic subcategories independent-samples *t*-tests were used for gender and first language and one-way ANOVA for the other five categories. Category mean scores and numbers in each subcategory are given in Table 7.1 with the one statistically significant low subcategory mean bolded and highlighted in grey and the two significantly high subcategory means bolded and boxed. Four other subcategories had mean scores over 7.00, a score representing a B-grade, and these four cells are bolded and boxed also.

TABLE 7.1

GRADE SCORE AVERAGES: MEAN SCORES BY DEMOGRAPHIC SUBGROUPS

	Mean	n		Mean	n
<u>GENDER</u>			<u>AGE GROUPS</u>		
Female	6.57	153	16-19 year olds	5.89	68
Male	5.65	52	20-25 year olds	6.71	60
<u>ETHNICITY</u>			26-45 year olds	6.60	60
NZ European	7.38	29	46-65 year olds	5.60	17
NZ Māori	5.77	41	<u>FIRST LANGUAGE</u>		
Pasifika	5.70	62	Other than English	6.48	111
Other Ethnicity	6.34	73	English	6.17	94
<u>EDUCATION</u>			<u>FUTURE COURSE</u>		
Lower Secondary	5.44	57	Nursing	6.63	91
Upper Secondary	6.86	98	Teaching	7.04	26
Post-secondary	6.09	34	Business	6.32	31
Tertiary	8.44	5	Social Work	7.04	8
<u>COURSE LEVEL</u>			University	5.91	8
Level 2 Introduction	7.60	14	Armed Forces / Police	6.08	8
Level 3 Foundation	7.17	92	Engineering/Computing	5.51	12
Level 4 Advanced	5.38	99	Other Courses	3.98	9

The only variable to show significant differences was current programme level. Here the mean scores of 7.60 of the 14 participants of the Introduction to Foundation programme and of 7.17 of the 92 participants in the Foundation course were significantly higher than participants from the Advanced Foundation course ($F_{(df = 2,202)} = 8.777, p < .001$). The Bonferroni post-hoc test revealed the significant

differences in the mean scores between the Level 2 Introduction to Foundation/Level 4 Advanced Foundation programmes (MD = 2.2192, $p = .046$) and Level 3 Foundation/Level 4 Advanced Foundation programmes (MD = 1.7931, $p < .001$).

These differences in the mean and the significance of the statistic, indicating that participants in lower level courses receive higher grades, were important in interpreting the results of the study. The marking and awarding of grades for the Level 2 and Level 3 courses were more closely aligned with each other than with those at Level 4. The difference in the amount of subject knowledge and academic literacy skill are perhaps factors in this difference in grade scores at the three levels. All assessed work produced by students is internally and externally moderated, so there can be confidence in the assessment instruments and procedures which have brought about these significant differences.

The highest mean score in Table 7.1 was the small group of participants who had previous tertiary experience. The mean GSA for these 5 participants was B, at 8.44. The one-way ANOVA did return a significant result ($F_{(df = 3, 190)} = 2.920$, $p = .035$) but the Bonferroni post-hoc test did not show a statistically significant value for any group differences. Even the largest difference in means between the tertiary experienced group and the lower secondary group was not statistically significant (MD = 2.998, $p = .325$), perhaps due to the small numbers in the tertiary group. There was also a difference in median scores between the subgroups for previous educational experience and these are shown in the boxplot of the GSAs in Figure 7.3.

None of the other three means at grade 7, boxed and bolded in Table 7.1, showed statistically significant results. A marginally significant result was returned for ethnicity ($F_{(df = 3, 201)} = 2.658$, $p = .049$) by one-way ANOVA. The greatest difference between the highest mean score for New Zealand Europeans at 7.38 and the lowest mean score for Pasifika people at 5.70 was not confirmed by the Bonferroni post-hoc test (MD = 1.684, $p = .135$). The median for ethnicity shown in the boxplot (Figure 7.4) shows the difference for that measure for the New Zealand European group above the other three.

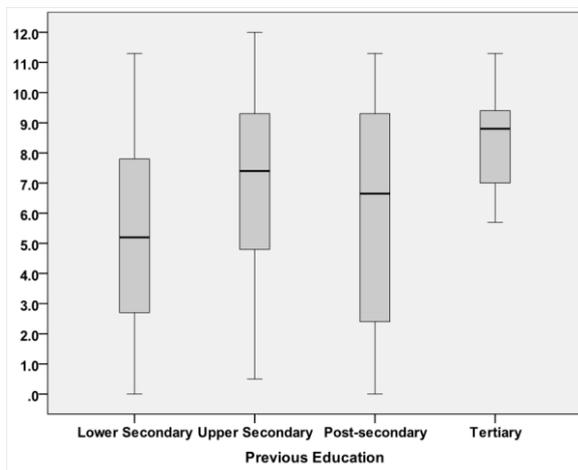


FIGURE 7.3 GRADE SCORE AVERAGES BY PREVIOUS EDUCATION EXPERIENCE

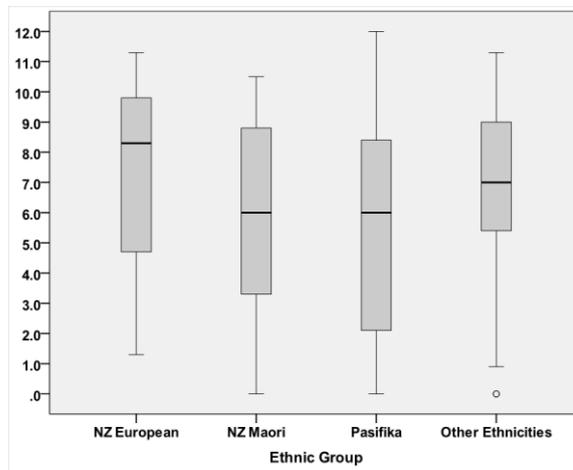


FIGURE 7.4 GRADE SCORE AVERAGES BY ETHNICITY

The remaining two mean scores at B—the two groups from the future course category hoping to enter teaching (7.04) or social work (7.04)—were not statistically significant. More obvious in the boxplot (Figure 7.5) than the two higher scores is the lowest median score at a C- grade average for the participants in the Other Courses/Work category. This was not significant (MD Other/Teaching = 3.065, $p = .458$).

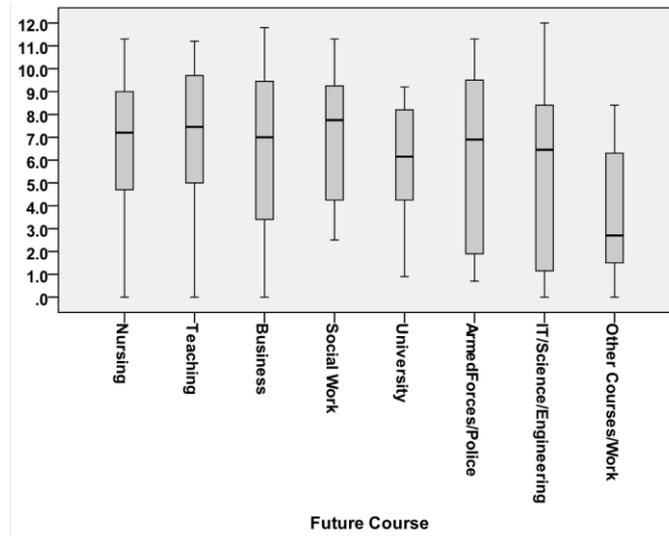


FIGURE 7.5 GRADE SCORE AVERAGES BY FUTURE COURSE

7.3.2 Revised grade score average (RGSA)

As mentioned in Section 7.2, any NC scores of zero (for non-completed courses) had the potential to dramatically reduce the GSAs of students. To observe the effect of these scores, any courses where a participant scored a zero was removed from the count of courses and a RGSA was calculated. This was done to test whether the GSA results would be significantly affected. The result was that the two sets of achievement data showed a very strong correlation ($r_{(n=198)} = .897$, $p < .001$) indicating that the two sets of scores, before and after removal of zero scores, were still very similar.

The reason for considering a RGSA was that initially the numbers looked like they could be significant. The 205 participants enrolled in 1,125 courses, an average of 5.5 courses per participant. There were 198 courses not completed which represented 18% of the total. Seventy-five participants (37%) failed to complete at least one of the courses they had enrolled in. Thirteen failed to complete only one and seven failed to complete any. If these seven participants with no courses completed are excluded from the count, the total number of participants is reduced to 198. By not counting the zero score for the NC grades and calculating the RGSA, about half, 23 of the 47, of the participants who had failed, would then have a passing grade. This would raise the percentage of students receiving a pass grade from 74% to 88%. The paired samples t -test identified a significant difference between the means of the GSA and the RGSA ($t_{(df=197)} = 7.640$, $p < .001$) for the 198 participants. This prompted further investigation and the acceptance outcome of each of the 23 participants whose GSA would have been raised to a pass by using the RGSA were examined. Five returned to the bridging programme, with four failing the second semester and the fifth successfully enrolled in a vocational course. Twelve left the course with destinations unknown. Six used the successful grades they did receive to enrol in an

academic course: one four semesters later, a second after a semester of ill-health, and four the following semester. Three of these six failed the academic course in their first semester of participation.

The RGSAs were examined in terms of the seven demographic factors using the independent-samples *t*-tests and one-way ANOVA. The only significant returns were again for the current bridging programmes. The Bonferroni post-hoc test ($MD = 1.6714, p < .001$) showed that the mean score of 8.13 of the 89 Level 3 Foundation programme participants was significantly higher than the 6.46 of the 95 Level 4 Advanced Foundation programme participants ($F_{(df = 2, 195)} = 11.560, p < .001$). There were no other significant results and the means were very similar to those given in Table 7.1. Even though participants with tertiary experience and qualifications still recorded the highest mean score it was not statistically significant. None of the tertiary qualified group had an NC grade; consequently their original mean score was unchanged.

Although the paired samples test revealed a significant difference between the original and the RGSAs, there was very little change in the participants' outcomes. The end result of the investigation was that the original GSAs of the participants, rather than the revised ones, were used to assess the links between the academic literacy and self-efficacy measurements in the achievement outcomes of adult students enrolled in a bridging programme in preparation for further study.

7.4 Programme results, academic literacy and self-efficacy

A major part of this study was the comparison of the GSA results of the bridging programme with the Composite Index of Academic Literacy (CIAL) and the Composite Index of Self Efficacy (CISE). The purpose was to examine if either academic literacy or self-efficacy had any relationship to the academic outcome of adults enrolled in a bridging programme, which in turn might improve the chances of students entering and participating in a future academic course of their choice. To investigate the possible effects Pearson correlation tests were run with participants' GSAs and the three components of academic literacy -the writing levels, vocabulary levels and reading scores—and then with the three summary measures of self-efficacy.

The grades gained by participants in the bridging programme did not relate significantly with either the CIAL ($r_{(n = 91)} = .173, p = .102$) or the CISE ($r_{(n = 145)} = .039, p = .638$). It might have been expected that those with the highest measurements of academic literacy would receive the highest GSAs, but this was not the case overall.

As there was no correlation with the overall grades, and given the consistently identified differences between the three programme levels, the Grade Score Averages awarded at each level were examined more closely. The results of the one-way ANOVA presented in Table 7.1 highlighted the possibility showed that the grades awarded were significantly different across the three programme levels: the lower the programme level, the higher the grades awarded. The Level 2 programme had a mean of 7.60 for GSA, compared to 5.38 for Level 4 (see Table 7.1). An investigation of the grade rankings at each of the three levels revealed that there were decreasing levels of correlation between academic literacy and bridging programme grades awarded. While there was no correlation between GSA and CIAL for the participants as a whole ($r_{(n = 91)} = .173, p = .102$), there was a moderate

correlation for the Level 4 Advanced Foundation programme ($r_{(n=31)} = \cdot567, p = \cdot001$), and a modest one for the Level 3 Foundation programme results ($r_{(n=49)} = \cdot308, p = \cdot031$). In contrast the Level 2 Introduction to Foundation programme GSAs, with only 11 participants, did not produce a significant correlation ($\rho_{(n=11)} = -\cdot158, p = \cdot664$) between course achievement and academic literacy.

Bandura (1997), Zimmerman and Cleary (2006) and others, take the view that alongside academic literacy as an important component in individuals obtaining success, a personal self-efficacy belief is also required. However the correlations between the CISE and the GSA of participants across all programme levels were slight and non-significant ($r_{(n=145)} = \cdot039, p = \cdot638$). Similar results were returned at each of the three programme levels: Level 4 Advanced Foundation ($r_{(n=61)} = \cdot137, p = \cdot293$), Level 3 Foundation ($r_{(n=69)} = \cdot205, p = \cdot091$), and Level 2 Introduction to Foundation ($\rho_{(n=11)} = \cdot378, p = \cdot252$).

As programme levels appear to have been an influence on the GSAs awarded, further correlations were run with the participants' scores in each programme level and compared with the three academic literacy components and the three self-efficacy summary measures.

Consistently modest to moderate relationships were found between the Level 4 Advanced Foundation programme scores and the three components of academic literacy and these are shown in Table 7.2. These additional correlation analyses allowed a closer examination of whether any particular aspects of either the components of academic literacy or summary measures of self-efficacy played a more significant role in the GSA awarded than any other. This extended analysis was undertaken to search for particular indicators which might assist in explaining how the combination of academic literacy and self-efficacy works in adults in this post-secondary educational environment. Again the results confirmed the grades awarded were differentiated by programme level.

All three academic literacy components were shown to be related with GSAs at Level 4. Across the 205 participants at all levels only the reading component had a modest correlation ($r_{(n=116)} = \cdot384, p < \cdot001$) with the grade scores awarded. Writing scores ($r_{(n=159)} = \cdot062, p = \cdot435$) and vocabulary scores ($r_{(n=119)} = \cdot099, p = \cdot283$) were not correlated significantly at all. The separation of the Level 4 Advanced Foundation results returned the moderate relationship between academic achievement and academic literacy which Zimmerman and Cleary (2006) found between academic achievement and cognitive ability.

TABLE 7.2

CORRELATIONS BETWEEN ACADEMIC LITERACY COMPONENTS, SELF-EFFICACY MEASUREMENTS
AND GRADE SCORES AVERAGES

		Grade Score Average		
		Level 2	Level 3	Level 4
Academic literacy score:	<i>n</i>	12	59	45
Reading	<i>r</i>	.178	.587	.537
	<i>p</i>	= .580	<.001	<.001
Academic literacy score:	<i>n</i>	12	71	75
Writing	<i>r</i>	-.280	.117	.405
	<i>p</i>	= .378	= .329	<.001
Academic literacy score:	<i>n</i>	12	52	45
Vocabulary	<i>r</i>	.178	.185	.400
	<i>p</i>	= .580	= .190	= .003
Composite Index of Self-efficacy (CISE): Level 4	<i>n</i>			59
	<i>r</i>			.143
	<i>p</i>			= .281
Composite Index of Self-efficacy (CISE): Level 3	<i>n</i>		69	
	<i>r</i>		.205	
	<i>p</i>		= .091	
Composite Index of Self-efficacy (CISE): Level 2	<i>n</i>	11		
	<i>r</i>	-.219		
	<i>p</i>	= .518		
Self-efficacy for Current Academic Literacy Skills (SECALS)	<i>n</i>	14	92	74
	<i>r</i>	.051	.280	.030
	<i>p</i>	= .862	= .007	= .801
Self-efficacy for Future Performance in an Academic Course (SEFPAC)	<i>n</i>	14	92	74
	<i>r</i>	.094	.286	-.026
	<i>p</i>	= .750	= .006	= .828
Self-efficacy for Readiness for Future Academic Study (SERFAS)	<i>n</i>	11	69	59
	<i>r</i>	.020	.273	-.026
	<i>p</i>	= .954	<.023	= .597

One further method was used to compare the composite scores for academic literacy and self-efficacy. By subtracting the CISE of each participant from their CIAL, three groups were created based on the difference between the two. Those participants with positive scores had higher academic literacy than self-efficacy, and those with negative scores had higher self-efficacy than academic literacy. A range of 5.71 stretched from +3.38 to -2.33. Scores of between -1.00 and +1.00 were taken as showing little difference, meaning that participants' self-efficacy roughly matched their academic literacy. With 66 participants having both sets of indices, this resulted in 14 being in the comparatively higher academic literacy group, 42 in the evenly matched group, and 10 having comparatively higher self-efficacy.

A difference in the mean scores of the three groups was indicated by a one-way ANOVA ($F_{(df = 2,62)} = 5.590, p = .006$). The Bonferroni post-hoc test revealed that the group with evenly matched scores between academic literacy and self-efficacy recorded higher GSAs than either of the other groups. The difference was over three-quarters of a grade higher than the high academic/low self-efficacy group (MD +0.7873), and a statistically significant difference in the mean over two grades higher (MD +2.3759, $p = .005$) than the high efficacy/ low academic literacy group. This is illustrated in Figure 7.6.

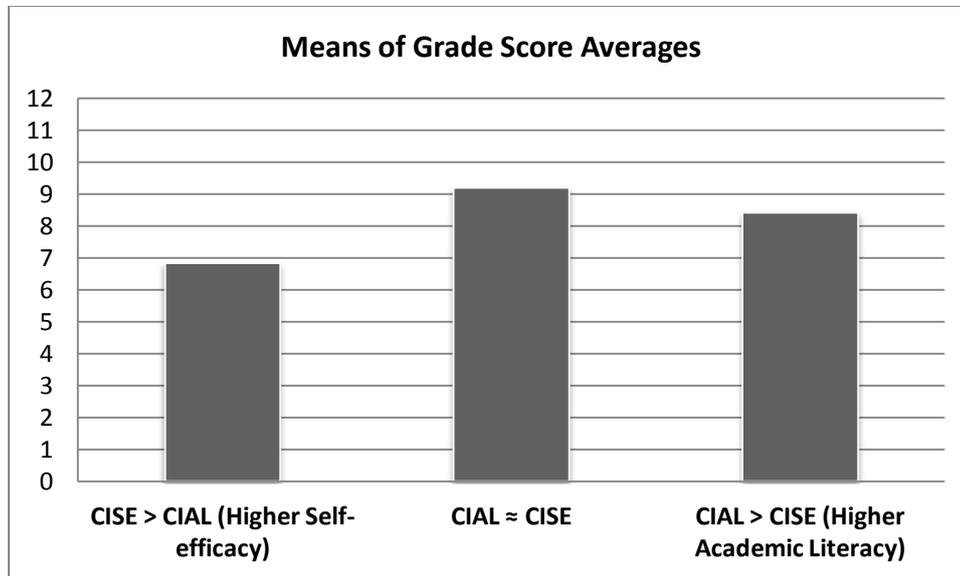


FIGURE 7.6 GRADE SCORE AVERAGE MEANS BY ACADEMIC LITERACY (CIAL)/SELF-EFFICACY (CISE) DIFFERENTIAL GROUPS

The conclusion drawn is that adults who had a realistic self-efficacy belief of their own academic literacy level were more likely to be successful in a programme designed to assist them in a future academic course. This group received grades marginally better than fellow participants who had lower self-efficacy of their academic literacy skill than their actual ability for doing well in academic situations. However, both these groups scored at least two grades higher than participants who had self-efficacy higher than measured academic skills. Self-efficacy for academic skills substantially higher than actual academic skills was associated with lower academic grades.

Figure 7.7 illustrates the differences between the CIAL and the CISE for the 14 participants who had academic literacy scores higher than their self-efficacy scores and shows that they cover a range of CIAL scores. Eleven of the group scored above the mean of 49% in the CIAL but all but one had self-efficacy below the mean of 50%. This lower self-efficacy created the difference between the indices. In this group, three rated their Readiness at 0%. Thirteen of the 14 were female.

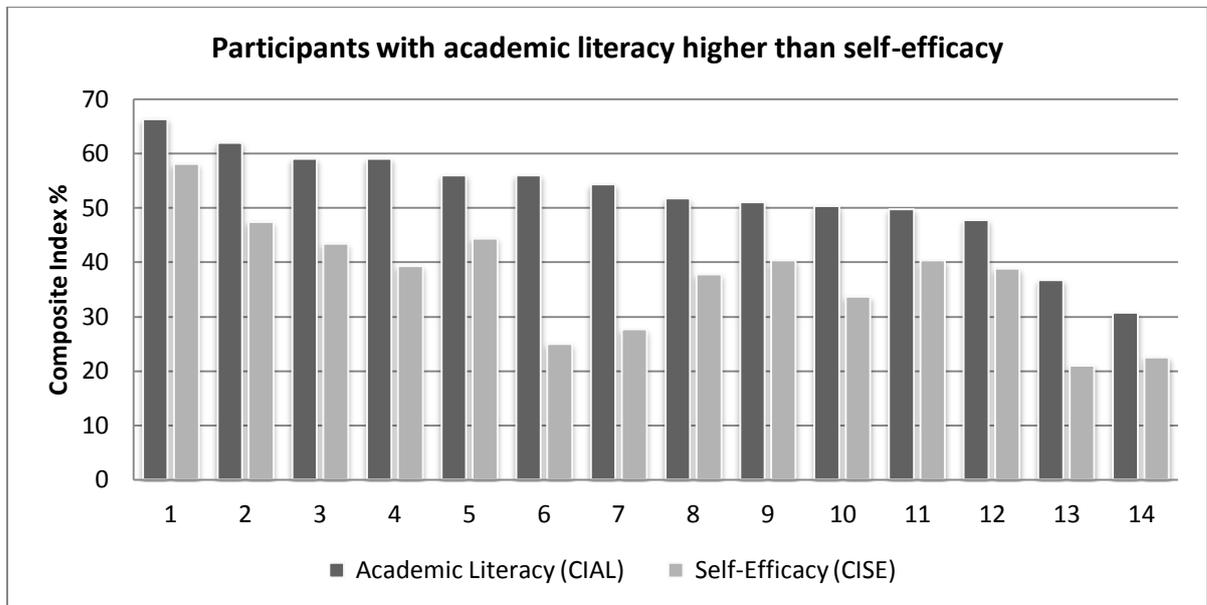


FIGURE 7.7 COMPARISON OF COMPOSITE SCORES FOR THE HIGH ACADEMIC LITERACY/LOWER SELF-EFFICACY GROUP

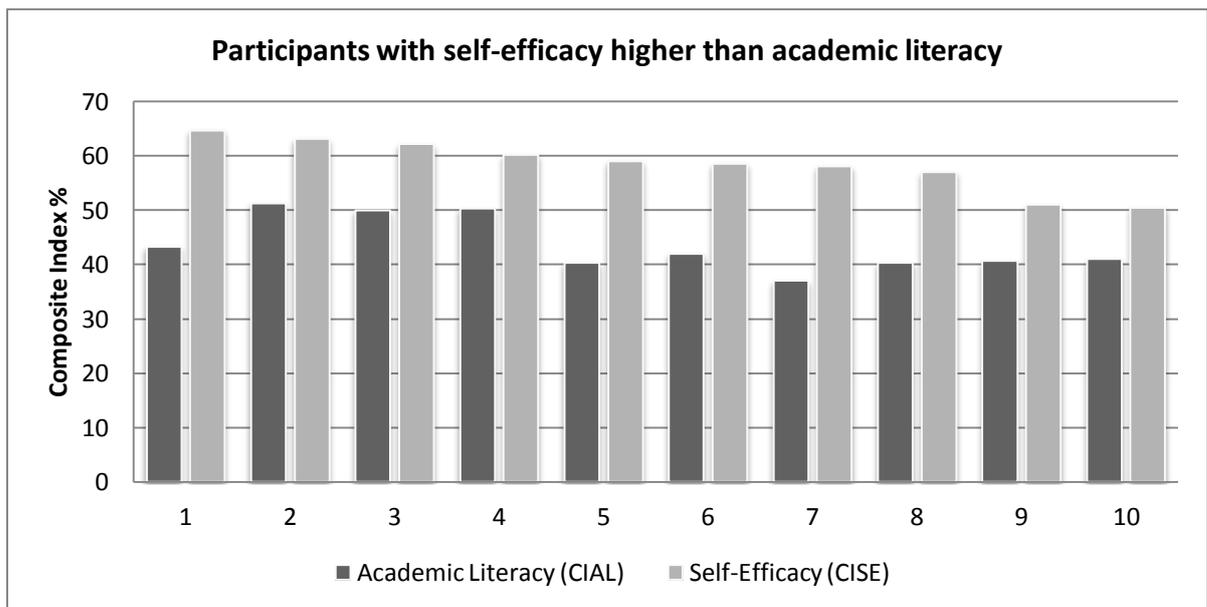


FIGURE 7.8 COMPARISON OF COMPOSITE SCORES FOR THE HIGH SELF-EFFICACY/LOWER ACADEMIC LITERACY GROUP

The scores of the group of ten who exhibited self-efficacy higher than their academic literacy scores are displayed in Figure 7.8. All exhibited self-efficacy at or above the mean of 50.0. The difference in index scores came from having substantially lower CIAL than their CISE. Seven of the ten had scored between 37%-43% on the CIAL. They were a mix of gender, age, and current programme subgroups. All were migrants to New Zealand and had attended higher levels of secondary school in their own country. Two had completed a university degree in their home country and first language before arrival

in New Zealand. Eight of the ten in this group were in the Other Ethnicities category and all were speakers of a first language other than English. Six of the ten rated their readiness for a future academic course at 100% and a further two at 95% and 90%. In this study, speakers of a first language other than English and immigrants were more likely to have higher self-efficacy for academic ability than they actually showed in the test situations through the CIAL.

Figure 7.6 indicated that deeper analysis was still needed to explore the relationship between participants with similar scores between academic literacy and self-efficacy and their GSAs. A summary of the scores for each composite index was made by grouping the 66 participants who had both composite index scores into roughly high, medium and low thirds for each index. The scores for the middle third extended half a standard deviation above and below the means for each Index. The means of GSAs for each third for the two indices given in Table 7.3 show very little differentiation between the three bands. This explained why there were no significant differences between the indices and academic outcomes when taken overall, and the moderate correlation between them.

TABLE 7.3

*MEANS SCORES OF COMPOSITE INDICES FOR ACADEMIC LITERACY (CIAL)
AND SELF-EFFICACY (CISE) BY LOW, MEDIUM AND HIGH BANDS*

<u>Academic literacy band</u>	n	GSA mean	<u>Self-efficacy band</u>	n	GSA mean
High	22	8.9	High	23	8.9
Medium	23	8.7	Medium	22	8.3
Low	21	8.1	Low	21	8.6
<u>All levels</u>	66	8.6		66	8.6

However when the three bands were cross tabulated, an interesting phenomenon appeared (see Table 7.4). The high academic literacy band was clearly differentiated at Grade 9 for the high and medium self-efficacy bands. The medium academic literacy band was at Grade 8 regardless of self-efficacy, while participants with low academic literacy were lower at Grade 7 for those with high and medium self-efficacy. The surprise was the transposition of the scores for participants with low self-efficacy.

The GSA mean of 9.3 for participants with low self-efficacy and low academic literacy was as high as the medium self-efficacy group with high academic literacy; and the 6.9 GSA mean for participants with low self-efficacy and high academic literacy was the lowest of all nine groups.

The scores and current bridging programme levels of individuals in these two groups were examined. In the low academic literacy/low self-efficacy group, six of the nine participants were in the Level 2 Introduction to Foundation programme, the programme at the lowest level that issued the highest grade scores. The five participants in the high academic literacy/low self-efficacy group were spread across the Level 3 and Level 4 programmes, and had no differentiating characteristics except that all were female.

TABLE 7.4

CROSS TABULATION OF ACADEMIC LITERACY AND SELF-EFFICACY SCORES
AND MEAN GRADE SCORE AVERAGES (GSA). ALL PROGRAMME LEVELS

Academic Literacy Index (CIAL)		Self-efficacy Index (CISE)		Mean of Grade Scores Averages (GSA)
band	<i>n</i>	band	<i>n</i>	
High	22	High	12	9.6
		Medium	5	9.3
		Low	5	6.9
Medium	23	High	6	8.6
		Medium	10	8.7
		Low	7	8.8
Low	21	High	5	7.6
		Medium	7	7.1
		Low	9	9.3

Knowing that the Grade Score Averages of the Level 4 participants correlated moderately with the academic literacy measurements, the GSAs at Levels 3 and 4 were analysed separately. There were 18 participants at Level 4 who had both CIAL and CISE. With the scores divided into thirds the resulting nine groups would leave too few in most categories. The composite scores for each index were ranked and divided at the mean for the Level 4 participants of 54.3 for the CIAL and 54.1 for the CISE, into Upper and Lower groups. The means of the GSAs for each of the four groups and their crosstabulations are given in Table 7.5.

TABLE 7.5

CROSS TABULATION OF ACADEMIC LITERACY AND SELF-EFFICACY SCORES AND
MEAN GRADE SCORE AVERAGES: LEVEL 4 PARTICIPANTS

Academic Literacy Index (CIAL)			Self-efficacy Index (CISE)		Grade Scores Averages (GSA)
band	<i>n</i>	mean	band	<i>n</i>	mean
			Upper CISE	9	7.8
			Lower CISE	9	7.0
Upper CIAL	10	8.9	Upper CISE	5	9.4
			Lower CISE	5	8.3
Lower CIAL	8	5.6	Upper CISE	4	5.8
			Lower CISE	4	5.4

Caution must be taken in dealing with very small numbers in each of the four sub-groups, however, the differentiation between the upper CIAL group ($n=10$) mean of 8.9 and the lower ($n=8$) at 5.6 is

clear. There is nearly a one-band difference between the upper and lower CISE scores. Within both academic literacy groups the effect of self-efficacy can be seen, however with a difference of one band score for those participants in the upper CIAL category the effect is more noticeable there. Low self-efficacy appears to affect the group with high academic literacy to a greater extent, with 1.1 band difference, than the group with lower self-efficacy with 0.4 band difference.

An identical analysis was run with the GSAs of the 39 Level 3 programme participants (see Table 7.6)

TABLE 7.6

CROSS TABULATION OF ACADEMIC LITERACY AND SELF-EFFICACY SCORES AND MEAN GRADE SCORE AVERAGES: LEVEL 3 PARTICIPANTS

Academic Literacy Index (CIAL)		Self-efficacy Index (CISE)		Grade Scores Averages (GSA)	
band	<i>n</i>	band	<i>n</i>	mean	
		Upper CISE	20	9.1	
		Lower CISE	19	9.0	
Upper CIAL	20	9.3	Upper CISE	11	9.6
			Lower CISE	9	8.9
Lower CIAL	19	8.9	Upper CISE	6	8.3
			Lower CISE	13	9.2

While there was a small difference of under a half band score between the Upper CIAL group (9.3) and the Lower group (8.9), there was virtually no difference between the Upper CISE group (9.1) and the Lower CISE group (9.0). In the Upper CIAL group the participants with higher self-efficacy had a mean GSA of 9.6 compared to 8.9 for the participants from the Lower Self-efficacy group. The scores for the Lower CISE group at the Lower CIAL level were higher than both the Lower Academic Literacy/Upper Self-efficacy group and the Upper Academic Literacy/Lower Self-efficacy group, as portrayed in Table 7.6. This again relates to the finding portrayed in Figure 7.6 where groups which had self-efficacy measurements which matched the academic literacy scores, participants received higher grades. This occurred even at the lower levels of CIAL and CISE.

Across these two programme levels the figures show that higher academic literacy influences higher GSAs, which is what could logically be expected. However, this does not occur if self-efficacy is low. Participants possessing even the highest academic literacy scores, if not matched by equivalent self-efficacy beliefs, can obtain scores lower than those with substantially lower academic literacy. High and medium self-efficacy delivers GSAs at levels differentiated by academic literacy levels. Within the Level 4 participants the clear difference of three grade score bands scores between upper and lower academic literacy scores highlights the importance of academic literacy skills. Self-efficacy, however, also played a part, by lowering scores by one band at the upper academic literacy level when self-

efficacy was low. The results for the comparisons of the CIAL and CISE for the Level 3 programme participants were less marked and may have been affected by the higher GSAs awarded at that level compared to the Level 4 programme.

This finding suggests the importance of accurate feedback on academic literacy skills in the bridging programme, especially for the most able students. This was commented on by participants in the interviews where they said that the lecturers' explanations of what was done correctly, and how to improve what was not presented adequately, helped their learning, and their confidence in knowing that they were capable of achieving the set academic tasks.

7.5 Future courses acceptance

Acceptance into the course of their choice was considered by many participants to be a major element of achievement. This is illustrated in Chapter 8 in the responses from the interview participants. The data recording participants' acceptance into the future course of their choice were collected both through interview responses and by obtaining their permission to access their enrolment status from the institutional database.

Of the 212 participants, seven had enrolment irregularities and consequently did not complete the course. The acceptance outcomes of the 205 participants were categorised into three broad groups: the participants who were accepted into a future course of their choice (n = 104) ; participants who passed the bridging programme but whose whereabouts and activities were unknown after the bridging course had finished or who gained employment (n = 45) ; and the participants who failed the course (n = 56).

TABLE 7.5

DESTINATION OUTCOME CATEGORIES AND NUMBERS IN EACH.

Category (n)	Destination Outcome score	Category (n)	Destination Outcome score
1	28	7	24
	Failed first semester: destination unknown		Passed first and second semesters destination unknown
2	9	8	2
	Failed first semester: returned failed second semester		Overseas or work
3	18	9	7
	Passed first semester: returned, failed second semester		Accepted into future course: 4 semesters after completion
4	1	10	3
	Failed first semester: returned and passed second semester		Accepted into future course: 3 semesters after completion
5	17	11	39
	Passed first semester: Destination unknown		Accepted into future course: 2 semesters after completion
6	3	12	54
	Passed first semester: Destination ESOL programmes		Accepted into future course: next semester after completion

To enable statistical calculations 12 acceptance outcome scores were established to match the 12 bands of the GSA data. While categories 4, 6, 8 and 10 outlined in Table 7.5, had small numbers and could have been amalgamated with others, the number was retained at 12.

Two participants had outcomes which could be considered successful, but which did not lead to further study: one of these gained full-time employment, while the other returned overseas to a paid position. As these outcomes did not relate to further study the total of participants in this section was reduced to 203.

The data were compared with the background characteristics of the participants, the CIAL, the CISE, SERFAS, and GSAs to look for similarities or differences in order to determine the relative importance of these factors on the acceptance outcomes.

The immediate outcome of where participants enrolled the following semester was known for 158. The destinations of the remaining 45 participants (22%) at the end of the first semester of the bridging programme were unknown. Participants who enrolled in other institutions were untraceable through official records and knowledge of their whereabouts relied on direct contact with the individuals. This occurred in eight cases.

Of the 203 participants over a quarter ($n = 54$) gained entry to a course of their choice in the following semester, with 51 entering an academic diploma or degree course at Level 5 or a one-semester certificate course at Level 4 which would lead on to a degree programme the following year; and three entering Level 2 vocational courses. The largest group of 91 returned for a further semester of the bridging course. For most of these returning it was by design as they had enrolled in a two- or three-semester programme when they started the bridging programme. A further 13 were either waiting for the following year to enter an academic course ($n = 8$), had enrolled in a specialised English language course ($n = 3$), were caring for a family member or were sick themselves ($n = 2$).

Of the 45 participants whose future location and activities were unknown, 28 failed the bridging programme and 17 passed. Overall, nearly three-quarters of the 203 participants ($n = 150$) passed the bridging programme while 26% ($n = 53$) did not. The numbers of participants at each level, their success in the bridging programme and whether their destinations were known are summarised in Table 7.6.

TABLE 7.6
NUMBER OF PARTICIPANTS PASSING THE BRIDGING PROGRAMME AND WITH KNOWN DESTINATIONS: BY LEVEL

	<i>n</i>	Level 4 Advanced	Level 3 Foundation	Level 2 Introduction
number	203	99	91	13
Passing the Bridging programme	150	63	76	11
Failing the Bridging Programme	53	36	15	2
Destinations known	158	69	76	13

7.6 Grade score averages and future courses acceptance

The GSAs correlated moderately with the 12 category scores for acceptance outcome ($r_{(n=205)} = \cdot400$, $p = \cdot001$). To investigate further, the grade score results were examined firstly in relation to a pass/fail criterion. There were no statistically significant differences by demographic categories of gender, age group, first language, previous education, or future course between those who failed or those who passed.

The only apparent difference in the distribution based on failing or passing the programme was in ethnicity. Figure 7.9, shows a greater number of Pasifika people who failed and a correspondingly greater number of those in the Other Ethnicities category who passed. This difference was not significant (Pearson $\chi^2_{(df=3)} = 3\cdot554$, $p = \cdot314$). However a one-way ANOVA testing the mean differences among the four ethnic groups for acceptance into a future academic course ($F_{(df=3,208)} = 4\cdot375$, $p = \cdot005$) revealed that differences between ethnic groups did exist. These were confirmed by the Bonferroni post-hoc test as being both Māori and Pasifika groups on the low side and those of Other Ethnicity which were over two acceptance bands higher.

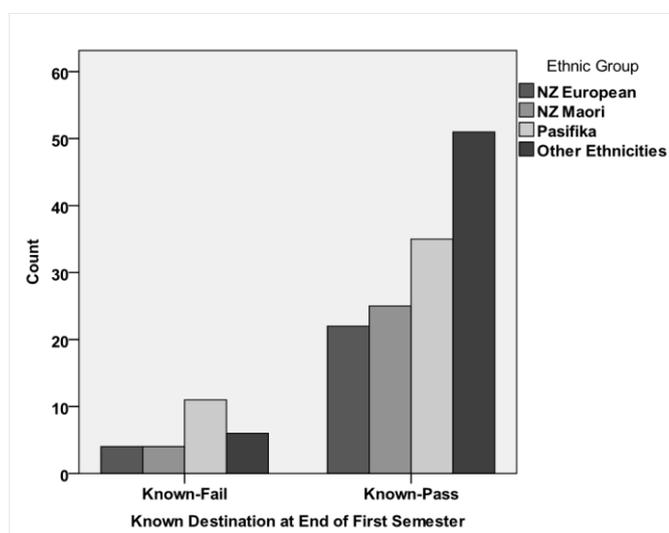


FIGURE 7.9 DISTRIBUTION OF PARTICIPANTS WITH KNOWN DESTINATIONS BY ETHNICITY AND PASS/FAIL CRITERION

Demographic data were further examined in relation to the two broad groups of those entering the course of their choice, and those returning to further bridging programmes, ESOL classes, waiting for the next year's intake or waiting for better health. No statistically significant results were recorded.

Across all 203 participants, of the 53 who failed the bridging programme about one half returned to enrol in a further semester while the second half left the institution with an unknown future. Social cognitive theory would suggest that the group which persevered and returned to the programme after failing would have higher self-efficacy than those who failed and left. In fact the mean for the CISE was 2% lower for the returning group, and an independent-samples t -test showed that there was no significant difference between the mean scores on the CISE ($t_{(df=26)} = \cdot186$, $p = \cdot854$) between failing and passing participants.

Concern was previously expressed about the possible effect that NC scores of zero could have had on participants' GSAs, leading to an examination and possible revision of the data as outlined in Section

7.3.2. Of the 28 participants who failed and had unknown future activity, 12 would have passed under the RGSA, while ten would still have failed. Six of those who failed, completed no courses at all. For these participants a RGSA would have been merely a statistical manipulation and would have had no effect because their official record from the institution of the course grades they were enrolled in remained unchanged.

Overall, GSAs correlated moderately with acceptance outcomes. The percentages of participants accepted into future courses at each grade level, represented in Table 7.7, show the relationship: acceptance rates drop as grade averages decline. The only anomaly was one participant at Level 2 who initially scored a fail grade but who persevered for three semesters to finally gain acceptance into a pre-degree certificate course leading to a degree programme.

TABLE 7.7

PERCENTAGES OF PARTICIPANTS WITH KNOWN DESTINATIONS ACCEPTED INTO FUTURE COURSES BY PROGRAMME LEVEL

Grade Averages	<i>n</i>	Level 4			Level 3			Level 2		
		<i>n</i> per level	<i>n</i> accepted	%	<i>n</i> per level	<i>n</i> accepted	%	<i>n</i> per level	<i>n</i> accepted	%
All grades	205	99	57	58%	92	42	47%	14	5	36%
A grade	29	6	5	83%	20	13	65%	3	2	66%
B grade	74	31	25	81%	39	20	51%	4	1	25%
C grade	48	26	16	62%	17	6	35%	5	1	20%
D-F grade	54	36	11	31%	16	3	19%	2	1	50%

Across all participants a Pearson chi-squared result of $\chi^2_{(df = 2)} = 9.972$, $p = .007$ confirmed a greater number of the Level 4 Advanced Foundation level participants failed their bridging programme than would be likely based on the expected distributions in Table 7.8.

TABLE 7.8

GRADE SCORE AVERAGE FAIL RESULTS BY PROGRAMME LEVEL

Fail Scores (n = 54)	Level 4	Level 3	Level 2
observed count	36	16	2
expected count	26	24	4

Of the 54 participants who failed their course, 68% were from the Level 4 programme, whereas Level 4 participants made up only 48% of all the participants in the study. By comparison, of the 24 Level 3 Foundation programme participants that statistically would have been expected to fail, only 16 did so. Of the participants with known outcomes, 25 failed, of whom 17 were from Level 4, 6 from Level 3 and 2 from Level 2. The bar chart in Figure 7.10 indicated the higher numbers of the Level 4 Advanced Foundation participants in the Known-to-have-Failed group and the comparatively higher numbers of the Level 3 Foundation participants in the Known-to-have-Passed group.

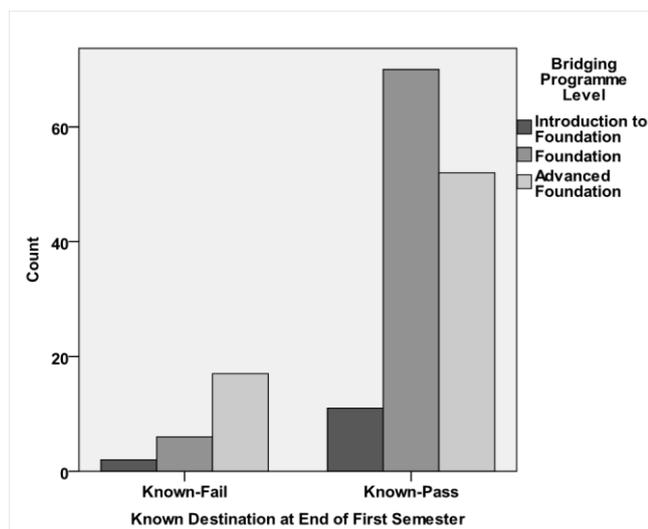


FIGURE 7.10 DISTRIBUTION OF PARTICIPANTS WITH KNOWN DESTINATIONS BY PROGRAMME LEVEL

The individual participants in each of the three programme levels were categorised by GSA and divided into four groups: Pass with A Grades (grade scores 10-12); Pass with B Grades (grade scores 7-9); Pass with C Grades (grade scores 4-6); and Fail (grade scores 1-3). Plus and minus embellishments to letter grades are included in the letter groupings. GSA groups for each programme level were compared with each of the academic literacy and self-efficacy components. As these groups were categorical, cross-tabulations with Pearson chi-squared tests were used. An in-depth description of the composition of each of the three programme levels and the statistical analysis of the difference between these letter score band groups is given below.

7.6.1 Level 4 Advanced Foundation programme participant outcomes

Sixty-three of the 99 Level 4 Advanced Foundation participants passed the bridging programme. The destinations of 11 were unknown. Of the 52 participants with known destinations who passed, four had to wait for intakes into courses at the beginning of the following year, or had personal reasons for being unable to enrol in the next semester. Nearly two-thirds (33 of the 52) gained entry to the future course of their choice: 21 entered first-year Level 5 papers in Nursing; nine enrolled in first-year Level 5 papers in the New Zealand Diploma in Business; two studied Level 5 papers in a Diploma in Communication Studies; and one in a Certificate in Social Services leading to a Bachelor's degree in Social Work.

Of the remaining 14 Level 4 programme participants, 13 returned to the programme although they had passed it, because there were specific courses they needed to complete at a particular grade to enter the course of their choice. One participant enrolled in a programme with a specific focus on English language.

Thirty-six participants failed the Level 4 programme. Nineteen had unknown destinations. Seven returned to the bridging programme for a further semester, one had health concerns and two had other reasons for putting their education on hold for a semester. Unexpectedly, the remaining seven

participants with fail grades were accepted into a further education courses: three for Level 5 degree or diploma papers, three at Level 4 certificate papers and one in a vocational Level 2 course.

In the Level 4 programme there were six participants in the Pass with A Grades group. All had very high scores, over 60%, in the CIAL. Five of the six reported high to reasonably high self-efficacy and these five all gained entry to the academic course of their choice in the following semester or in the next year where there was no mid-year intake. The remaining participant, with below average self-efficacy returned for a further semester to the bridging programme before leaving, destination unknown. This case shows that high academic literacy on its own is not enough to ensure acceptance in and progression to a future academic course. This gives a success rate for this group of 83%.

There were 31 participants in the Level 4 Pass with B Grades group. Nearly all (94%) scored above average on the CIAL, between the mean of 49.0 and 59.9. Three of these scored over 60%. Only two scored below the mean. The CISEs ranged from 38.3 to 60.7, with twice as many scoring in the 50.0 to 59.9 range than those below the mean (50.0). Nineteen of the 31 were accepted to the academic course of their choice in the next semester, with a further four gaining entry the following year after returning to a second semester at the bridging programme or at a specialised English language programme. Two returned to take up an academic diploma or degree course four semesters after completing the bridging programme. This translated to an 81% known successful outcome for this group. One participant obtained full-time employment; four passed the course, but their future activities were unknown. One participant passed the first semester, only to fail a second semester on returning to the bridging programme. There was no observable difference between either the level of self-efficacy or the level of academic literacy in the acceptance outcomes of the participants.

Twenty-six participants were in the Pass with C Grades group in the Level 4 programme. The CIALs of two-thirds of them were in the 49.0 to 54.9 range, with one-third in the 40.0 to 48.9 range. Ten of the 26 participants were accepted into their academic course at the end of the semester. A further six were accepted into the academic course of their choice after returning for a second semester in the bridging programme. In addition to these six returnees, one more passed but left to an unknown destination, one was sick and one had personal reasons to wait. The remaining seven C grade participants from the first semester left at the end of the semester with no known educational destination. Five had passed and two had failed the subsequent bridging programme. Participants who passed the bridging programme but whose destinations were unknown were not included in this 62% success rate of admission to a future academic course. The acceptance outcomes of participants were spread across all levels of academic literacy and self-efficacy.

The remaining 36 of the 99 participants in the Level 4 Advanced Foundation programme had an average for the bridging course below 4.0, which constituted a fail. Over half ($n = 19$) of those who failed left the bridging programme with an unknown future activity, leaving 17 with known destinations. Six failed and returned to the bridging programme where they failed a second time and left the programme, their future activities unknown. Even with fail grades three participants were accepted into a Level 5 degree or diploma course, a further three were admitted to pre-degree foundation courses, and one to a vocational course. The following year, one more was accepted into a degree course, and one into a pre-diploma course. Another two who failed the course, persisted for a further two years

and were finally admitted into the degree programme of their choice, four semesters after the initial bridging programme course. These 11 participants who failed but gained entry to a course of their choice achieved a 31% success rate for the group. The CIALs were below the mean for all but two. There was a marked contrast however in the CISE. There were twice as many participants in the 50.0 to 59.9 range as in the 40.0 to 49.9 range. Four participants rated themselves with high self-efficacy at over 60%.

On closer examination of the 17 Level 4 Advanced Foundation participants who failed and for whom a destination was known, seven were accepted into a future education course. Three of these were Level 5 academic degree or diploma courses. Interestingly, although all of these three participants had failed the bridging programme, they had a course in the programme with an NC grade that had lowered their overall GSA below the C- criterion. Remembering that the RGSA outlined in Section 7.3.2 was calculated just for the purposes of this study and was not the official institutional measure of academic achievement, it seems an informal version of the revised system may have been operating by institutional officials accepting failing students into tertiary programmes. The other four courses these failing participants enrolled in were in Level 2 or 3 certificate programmes in Tourism Customer Services, Carpentry, Office Administration and Computing, and a foundation pre-diploma certificate in Business. A further seven failing participants returned to the bridging programme and one second language learner enrolled in a programme focused specifically on English language skills. Four of these eight eventually gained entry to the academic course of their choice, while the remaining four failed and disappeared with their future educational activity unknown. The remaining two participants were unable to attend the following semester for health reasons, either their own or those of a significant family member. Both continued with their education in the first semester of the following year.

7.6.2 Level 3 Foundation programme participant outcomes

All 92 Level 3 Foundation programme participants could have been expected to return to their scheduled second bridging programme semester, and 60 of them did so. Of the remaining 32, the post-bridging-course activities of 15 were unknown, two waited for academic courses in a future semester, one enrolled in a specialised English language course and one gained employment. This left 13 who successfully gained direct entry to the course of their choice. One entered the first-year Level 5 papers in the Diploma of Business while another nine entered a Level 4 Certificate in Early Childhood Education which started in the second semester. This certificate was a pre-degree foundation course leading on to entry to a Bachelor of Education specialising in Early Childhood Education which only had intakes at the start of each year. All but one of the participants were enrolled in first-year Level 5 papers of the degree in the following year. Of the remaining three participants who were accepted for entry to course of their choice, two went to the Level 3 Certificate in Tourism Customer Services with one of these continuing through higher level certificates to a qualification in Tourism. The remaining participant entered a Level 2 vocational course.

Amongst the 158 participants with known destinations at the end of the first semester, 76 were from the Level 3 Foundation programme. The majority (n = 60; 79%) of the 76 in the Level 3 Foundation programme returned to continue their planned second semester in the bridging programme. Fifty-six of

the 60 had passed their programme. The four who did not pass completely had passed some courses but had NC grades for others. They returned with a mixed programme, advancing in the courses in which they were successful, and repeating courses that had not been completed. In the following semester, of these four, one participant returned to a specialised English language programme and two took time away from study to return at a later date, and one had an unknown destination.

There were 20 participants in the Level 3 Foundation programme in the Pass with A Grades group. Thirteen of them returned to the bridging programme and of these, seven were accepted into the degree programme of their choice at the start of the next year. One further participant enrolled in a specialised English language programme and was admitted to the degree course one semester after that. Five gained acceptance into a pre-degree certificate programme which started the following semester. All five completed the certificate course and entered the degree programme the following year. These 13 participants who were accepted for a future academic course constituted a 65% success rate. The CIAL was fairly evenly split between the 40.0 to 48.9% and the 49.0 to 59.9% ranges. The participants who scored over 55% in the academic literacy measurements all progressed on to degree courses by the end of the following semester. The CISE was also split along the same percentages with one participant rating themselves at 60%. Three-quarters of the participants who rated themselves at 55% self-efficacy or over progressed to degree courses. The remaining quarter passed the second semester of the bridging programme but their academic destinations were unknown. High scores of academic literacy and of self-efficacy for these A-grade achieving students were associated with gaining successful acceptance into the academic course of their choice.

Thirty-nine participants in the Level 3 Foundation programme were in the pass with a B Grades group. One participant gained entry to a diploma course and two to a pre-degree certificate programme which led to a degree or diploma course the following semester. One more entered a vocational certificate programme. The destinations of two more were unknown. All 33 remaining participants returned to the bridging programme as they had planned to do. These participants were also split fairly evenly between the 40.0 to 48.9% and the 49.0 to 59.9% ranges for the CIAL. The CISE was similarly split but this group had the widest range of self-efficacy scores, from 21.0 to 63.2%. However, these B grade participants were not differentiated by either academic literacy or self-efficacy. The means of the GSAs for the above- and below-average self-efficacy scores were very similar, and the means of the GSAs for the above average group in academic literacy was only 0.3 of a grade higher than the below average academic literacy scores. A further 11 of the participants who returned to the bridging programme gained acceptance to an academic course, and one to a vocational course. Two more showed persistence by enrolling in a further bridging programme semester, and two in a specialised English language programme at the start of the next year, with all four gaining entry to degree programmes in the following semester. The 20 participants who gained entry to a course made a success rate of 51% success.

The 17 participants in the Level 3 Foundation programme in the Pass with C Grades group ranged from 29.3% to 56.0% on the CIAL, and from 25.0% to 48.5% on the CISE, with the exception of four participants who rated themselves over 60% in self-efficacy. Three of the four participants with high self-efficacy scores failed the second semester of the bridging programme. Four of the 17 gained entry

to an academic course, and two to vocational certificate programmes. The remainder returned to the bridging programme but were unsuccessful in the following semester. This equated to 35% successful acceptance across the group.

The least successful group, the 16 participants who failed the Level 3 bridging programme also did not complete the measurements of academic literacy. Most, however, did complete the self-efficacy questionnaire with scores that were fairly evenly split between the 40.0 to 49.9% and the 50.0 to 59.9% ranges. One participant gained entry the next semester to the pre-degree certificate course leading to a degree and a second entered a course with a similar purpose four semesters later. One participant entered a vocational course. These three give a success rate of 18%, the least successful of the Level 3 or Level 4 programmes.

7.6.3 Level 2 Introduction to Foundation programme participant outcomes

The much smaller group of 14 Level 2 Introduction to Foundation programme participants had planned to return to the Level 3 Foundation level programme the following semester. Eleven of these did so with the twelfth changing to a specialised programme focusing on English language. One participant gained entry to a Level 2 Certificate in Automotive Electrical Engineering. The remaining one returned overseas for employment. Of the 14, 12 of the class passed the programme and entered the Level 3 Foundation level with the remaining two making up missed credits in courses not passed the previous semester.

Three participants in the Level 2 Introduction to Foundation programme were in the Pass with A Grades group. All these completed their plan to return to the bridging programme the following semester which again, they passed. At the end of that semester two were accepted into Level 4 certificate programmes that were pathways to diploma courses. The other passed but with future academic and study activities unknown. All three of these participants exhibited academic literacy and self-efficacy at low levels at the time of the survey, between 30.0% and 43.0% on the CIAL, and 22.5% and 46.4% on the CISE. This group most clearly illustrated the phenomenon where participants with a close match between the composite scores for academic literacy and for self-efficacy achieved the highest GSAs. But it needs to be remembered that these were at Level 2.

The four Level 2 participants in the Pass with B Grades group had very similar composite scores as the Pass with A Grades group and the Pass with C Grades group: CIAL between 29.7-42.0 and CISE between 32.7-46.9. Two returned to a second bridging course, one went to a specialised English course and the fourth was accepted into a vocational course starting at the beginning of the next semester.

Four of the five Pass with C Grades Level 2 participants returned to the bridging programme in the following semester, with the fifth returning to work overseas. CIALs were in the 30.0% to 43.0% range with slightly higher self-efficacy ranging from 42.0% to 49.0%. At the end of the next semester one participant entered a vocational course while the other three failed the Level 3 Foundation bridging programme semester, their future study activities being unknown.

The two Level 2 participants in the Fail group returned to the bridging programme in the following semester, only to fail as the three C grade participants had done. One left the programme, with future activity unknown. The remaining participant showed an interesting pattern: this participant had a CIAL of 40.7%, yet he had the highest self-efficacy of all 14 members in the Level 2 programme. He recorded no NCs, even though he failed enough courses to fail the programme twice. This participant, with high self-efficacy, displayed the persistence that Bandura, Zimmerman and Cleary have noted by returning a third time and was eventually accepted into the Level 4 pre-degree certificate programme which would lead to a tertiary degree.

7.6.4 Participants with unknown destinations at the end of the first semester

For 45 participants there was no evidence available of the course of actions undertaken at the end of the first semester bridging course. It is known that 17 (38%) passed the bridging programme and 28 (62%) failed. A comparison of those who passed and those who did not, was undertaken to search for differences in characteristics of participants' backgrounds related to academic outcome. Pearson chi-squared tests were run for the seven demographic factors. There were no significant values, but a visual inspection of the bar charts showed three trends—in age group, previous education and future course—none of which were statistically significant.

There was an imbalance between the actual numbers observed and what could statistically be expected in two of the four age group categories. Figure 7.11 shows that the younger 16-19 year olds appeared in disproportionate numbers among those who failed the bridging programme and did not get accepted into a further course, while the 20-25 year olds were more likely to have passed the bridging programme (Pearson $\chi^2_{(df=3)} = 5.712, p = .126$).

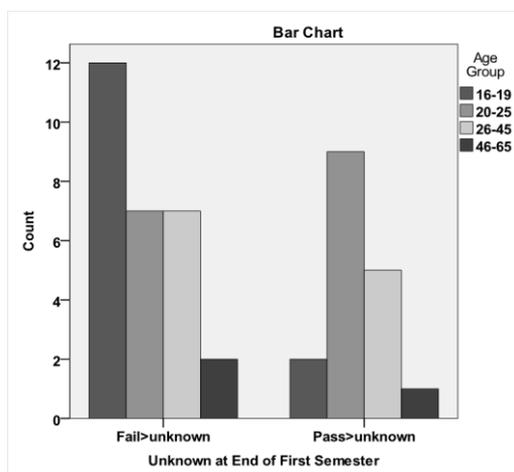


FIGURE 7.11 DISTRIBUTION OF PARTICIPANTS WITH UNKNOWN DESTINATIONS BY AGE GROUP

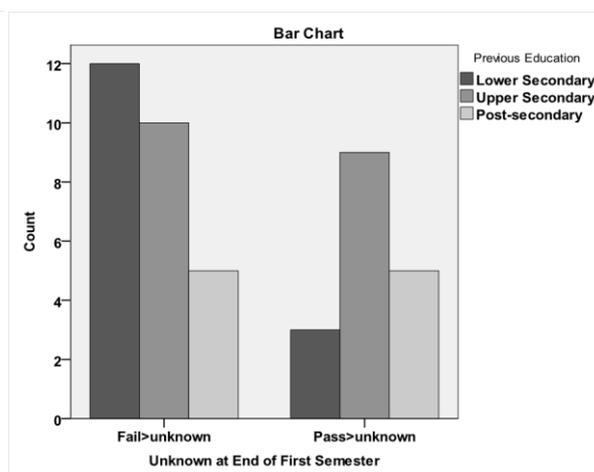


FIGURE 7.12 DISTRIBUTION OF PARTICIPANTS WITH UNKNOWN DESTINATION BY PREVIOUS EDUCATION

Secondly, Figure 7.12 shows that participants with unknown destinations whose educational experience finished at the lower secondary level were four times more likely to have failed the programme than to have passed (Pearson $\chi^2_{(df=2)} = 3.353, p = .187$).

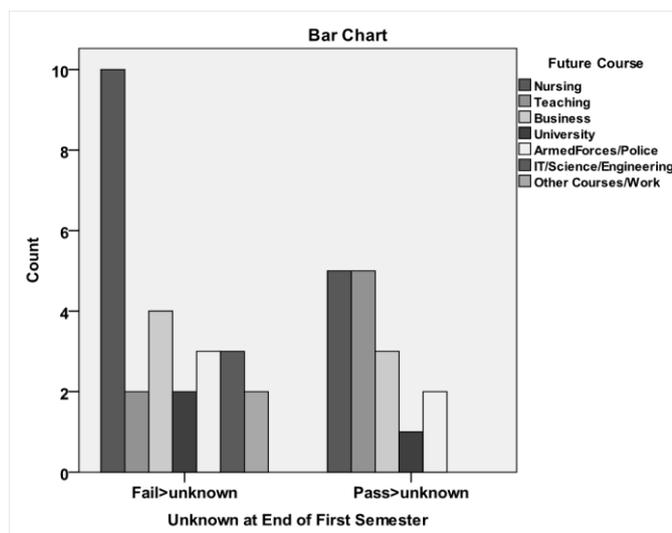


FIGURE 7.13 DISTRIBUTION OF PARTICIPANTS WITH UNKNOWN DESTINATIONS BY FUTURE COURSE

Thirdly, in the future course category, aspiring teacher participants were more than twice as likely to have passed the bridging programme (see Figure 7.13). Four of the five successful participants who had an aspiration to teach wanted to do so at the primary level. There are two issues here: first, since the course for primary teaching is at another institution, enrolment was not able to be tracked; and second, the intake for that teaching course was in February, at the start of the following semester. These participants passed the bridging programme but their future enrolment outcomes are unknown.

A second group of five was the prospective nursing students who passed the course but did not continue. Given the large number of nursing students in the study, there must always be some who change their mind or have a change in personal or family situation which necessitates an alteration to a plan, even if successful.

Those with unknown destinations who failed the bridging programme were spread across all future course groups, although none from the participants from the IT/Science/Engineering or Other course groups whose future actions were unknown passed the course (Pearson $\chi^2_{(df=6)} = 6.623, p = .357$).

7.6.5 Outcomes of participants at the end of the second semester

The acceptance outcomes at the end of the second semester are important in the overall outcome data. There were 106 participants considered in this section whose future activity data are known. By far the majority (91) returned to a further semester of the bridging programme. Of the others, four continued with their education by attending a specialised English language programme within the institution; four needed to wait for the beginning of the next year to enrol in the course of their choice because there was no mid-year intake; three had health issues which delayed their further education for a semester; one found employment; one returned overseas; and two undertook other activities only to return to further study four semesters later.

Of the 91 returning for a second semester of the bridging programme, 32 participants achieved entry to a future course at the end of that semester. For most this was the course of their choice: for some it was a foundation certificate course leading to later entry into a tertiary degree or diploma programme; for others it was entry into a course which was a change from their original plan. The courses of these

32 participants and a further four who had been sick or who were waiting for the course intake during the previous semester were also successful in gaining entry to educational courses. The courses ranged from 13 participants entering first-year Level 5 Bachelor of Nursing papers, four participants for first-year Level 5 Bachelor of Applied Social Work papers, three participants in first-year Level 5 Bachelor of Education papers specialising in Early Childhood Teaching, with the remaining 15 participants enrolling one each in a wide variety of courses, from a Bachelor of Applied Communications degree, through diplomas in Civil Engineering, and Communications, to a National Certificate in Business Administration, and a National Certificate for Adult Literacy Educators, and certificates in Information and Communication Technology, Logistics, Mental Health, Community Nursing, Social Services, Bi-cultural Social Work Practice, Pacific Community Support, Office Computing and Administration, landscaping, automotive and auto electrical. The remaining participant attained his goal of selection into the armed forces.

Of the remaining 59 participants, three continued in specialised English language programmes, and eight continued to a third bridging programme. The future educational activities of the other 48 were unknown, although it is known that 19 passed the programme and 29 failed it.

The 106 second-semester participants with known destinations can be classified again according to their original Level in the bridging programme. Of the 106 participants, 29 were in the Level 4 Advanced Foundation group, 64 were originally in the Level 3 Foundation group, and 13 began in the Level 2 Introduction to Foundation class. One semester later, the participants had moved up one level from the original Level 2 to 3, and Level 3 to 4.

Amongst the 29 participants from the original Level 4 Advanced Foundation programme, 12 had been successful in gaining acceptance to the academic course of their choice. The future educational activities of another 12 were unknown, but of these 12, eight had failed the bridging programme and four had passed. Of the remaining five, one went to an English course, one found employment, two returned for a third semester in the bridging programme and one was in unknown circumstances but returned to an academic course three semesters later.

The majority (64) of the 106 participants returning to the bridging programme had previously been in the Level 3 Foundation programme. It was part of the academic plan of nearly all Level 3 Foundation programme participants to return to the bridging programme for a second semester. Twenty-five participants, making up 38% of the group, were successful in gaining acceptance to an academic course of their choice. Twenty-one of these 25 were in Level 4 certificates which progressed into diplomas or degrees, or were studying first-year Level 5 papers for diplomas or degrees, and four were in Level 2 or 3 certificates where the participant did not progress to higher qualifications. There were 31 participants whose future educational or vocational activities were unknown at the end of the second semester. Of these, 19 failed the second semester of the bridging programme, with 12 participants passing it. Of the remaining eight of the 64, three went to an English language course specifically designed to assist speakers of languages other than English to prepare for further academic study; four returned to a third bridging programme; and one participant was in unknown circumstances until returning to an academic course three semesters later.

The results of the 14 participants who had started their bridging programme in the Level 2 Introduction to Foundation programme had a full range of outcomes after the second semester. Two were successful in gaining acceptance to Level 4 certificates which were pathways to higher level diploma courses. A third gained entry to a Level 2 certificate which the participant had accepted as a change to the original plan. Two participants went to specialised English courses and two returned to the bridging programme, which could be seen as a fulfilment of the participants' original plans. One returned overseas. Of the remaining six, three passed and three failed the course but none returned to the institution and their future educational activities are unknown.

7.6.6 Outcomes of participants at the end of subsequent semesters

From the original 212 participants, the destinations of 13 participants who were in their third semester of education after the initial semester of the study were still able to be traced. This small group were still important to include in the study and the analysis as they are examples of persistent effort. They had entered the bridging programme with specific goals and had persevered with a variety of courses which would help them. They were made up of five who had been to specialised English language courses, and eight who had returned twice to the bridging programme.

In the third semester since first entering the bridging programme, one participant who had been on an English language course and three who were in the bridging programme terminated their study with the institution, their future educational programme unknown. On the positive side, two gained admission to the first-year Level 5 Bachelor of Nursing programme. Two more entered the Level 4 Certificate in Social Services, a preparation course for the degree programme in Applied Social Work. The persistence shown by these four could not have been predicted based on any of their summary measures of self-efficacy scores or their CISE recorded in the first semester of the bridging programme.

The wide range of randomly spread CISE scores, and persistent effort to gain entry to the academic course of their choice of this group of four were surpassed only by a further six participants in the fourth semester since first entering the bridging programme, who successfully gained acceptance into the course of their choice. Three of these were for a Bachelor of Nursing degree, one for a Bachelor of Business, one for a Level 6 National Diploma in Mechanical Engineering and one for a Certificate in Electrical Engineering. Two of these were those mentioned and counted earlier who had been away from the institute for the three semesters but who were accepted into the course of their choice. Of the 14 participants originally in the three-semester Level 2 Introduction to Foundation programme, three completed the third semester.

7.7 Summary

Nearly three-quarters of participants passed the bridging programme. Ninety-seven of the 205 participants entered a course at degree or diploma level and six more in courses with a vocational focus. Forty-five left the programme either during or on completion of the semester with no known destination. Seven of these 45 failed to complete any courses in the bridging programme.

The mean GSA for the three levels was C+. The mean scores for each of the three programmes were significantly different. The mean of the Level 4 Advanced Foundation programme at C grade was two

band scores lower than the B- means for the other two programmes. A lower proportion of the Level 4 participants passed the programme. An examination of a RGSA with the NC courses removed from the calculations resulted in no major or significant differences in the outcomes of participants in any of the demographic groups.

Zimmerman and Cleary (2006, p. 52) reported that 'academic success is primarily influenced by cognitive ability' but added that the 'correlation ... is typically only in the moderate range'. It can be expected that higher levels of academic literacy will lead to higher academic outcomes. This is generally borne out in the GSAs as there was a one grade difference between the means of GSAs between the participants in each of the high, medium and low academic literacy groups.

The results showed that those participants who had a realistic understanding of their academic ability tempered with a reasonable level of self-efficacy had the best outcomes in terms of GSA. Participants who had similar scores on both the CIAL and the CISE recorded higher GSAs than participants who had a large difference between the scores. Participants with evenly matched composite index scores were awarded grade scores half a band higher than those with high academic scores and low self-efficacy, and over two-and-half band scores higher than those with the low self-efficacy group and high academic ability. Levels of self-efficacy had little effect on participants who scored in the medium range for academic literacy.

An important finding that the CIAL correlated moderately ($r = .562$, $p = .001$) with the GSAs in the Level 4 Advanced Foundation programme, accounting for 32% of the variance. There was a modest correlation of the CIAL with grades awarded in the Level 3 Foundation programme. Another important point is that the grades awarded to participants were significantly different in the three different programmes. An A grade at the Advanced Foundation Level 4 programme signifies a higher level of learning and performance than an A grade in the Level 3 Foundation or Level 2 Introduction to Foundation programmes.

Correlation results between GSAs and the CISE were slight and not significant. However, all three components of academic literacy correlated modestly to moderately with the Level 4 grades. While self-efficacy measurements correlated significantly with the Level 3 Foundation programme grades, the correlations were only slight.

It is unfortunate that 45 participants—17 who passed the bridging programme, and 28 who did not—were unable to be located, so that their experiences could have been added to the data.

The majority of participants at Level 2 and Level 3 had planned to return for a second bridging programme. A third of these were successful in gaining entry to the future course of their choice. Four of the 14 participants originally in the three-semester Level 2 programme completed all three of their planned semesters.

Chapter 8. INTERVIEW DATA ANALYSIS: Reasons for studying, recognition of needs, self-efficacy for future study, and sources of self-efficacy

8.1 Introduction

This chapter reports participants' responses to interview questions on six topics relating to self-efficacy. These qualitative data were collected from face-to-face interviews near the mid-point of the initial one-semester course. Thirty participant volunteers across each of the 11 classes of the bridging programme were interviewed. Fourteen were from the Level 4 Advanced Foundation programme, 13 for Level 3 Foundation programme and three from the Level 2 Introduction to Foundation programme.

Twenty-three of these 30 were located for a follow-up interview which took place over the first four weeks on the following semester. In the second interviews the same topics were covered to observe any changes that may have occurred as a result of completing the bridging programme and entering the academic course of their choice, or returning for a further semester in the bridging programme.

Firstly, the interview group was compared to the 212 participants in the study in relation to demographic, academic literacy and self-efficacy data. Interviewees were similar in proportion for gender, educational level, current bridging programme and future course aspirations. Independent-samples *t*-tests showed that there were no significant differences for both the composite index of self-efficacy (CISE) score ($t_{(df = 146)} = \cdot 204, p = \cdot 838$), which included the two summary measures of self-efficacy for current academic literacy skills (SECALS) and self-efficacy for future performance in an academic course (SEFPAC), or the self-efficacy for readiness for future academic study (SERFAS) ($t_{(df = 146)} = \cdot 861, p = \cdot 391$). As both the interview and the perception questions were asking for personal interpretations and opinions it was important that these two measurements were similar to the rest of the participant sample.

The only significant demographic difference found was for the first language of the interviewees ($Z = -2.754; p = \cdot 006$). There were nearly three native English speakers to each speaker of another language (22:8) in the interview group whereas the sample of the 212 participants was roughly equal (47%:53%).

The oldest age group (46-65) was over-represented in those interviewed, with 17% of the 30 interviewees in this age group compared with 8% of the participant sample of 212. Similarly 27% of the interviewees belonged to the New Zealand European ethnicity category compared to 15% of the participant sample. This was at the expense of those classified as Other Ethnicities (Interviewees: 23%/total sample: 34%). Neither of the one-way ANOVAs for age or ethnicity, however, returned significant results.

The interviewees were significantly higher in the composite index of academic literacy (CIAL) than the rest of the study participants ($t_{(df = 89)} = 3.226, p = \cdot 002$); reading (MD = 6.328: $t_{(df = 112)} = 2.637, p = \cdot 010$); vocabulary (MD = 7.009: $t_{(df = 126)} = 3.313, p = \cdot 001$); and writing (MD = 4.699: $t_{(df = 158)} = 2.321, p = \cdot 022$). Grade Score Average (GSA) ($t_{(df = 33-314)} = 2.892, p = \cdot 006$), and acceptance outcome ($t_{(df = 69-709)} =$

5.195, $p < .001$) were also significantly higher for the interviewees. This is perhaps a comment on the people who feel comfortable volunteering for interviews. For the independent-samples t -tests, equal variances were confirmed by Levene's test for all but the GSA ($F = 4.687$, $p = .032$) and the acceptance outcome data ($F = 40.006$, $p < .001$).

A significantly greater percentage of interviewees than the 212 participants passed the bridging programme (Pearson chi-squared = 10.426, $p = .005$) and more were accepted to a future course than would be statistically expected. Eleven were accepted into the course of their choice in the following semester, three entered planned courses in subsequent semesters, 15 returned to the bridging programme for a further semester, and one had an unknown destination. Of the 15 who returned to the bridging programme, subsequently, eight had unknown destinations and seven gained entry to a course of their choice. This eventually made 70% of the 30 interviewees who gained entry to the course of their choice ($n = 21$): 19 were academic degree and diploma courses and two were vocational.

By the end of the second semester five further interviewees passed the bridging course but left with no indication of future educational destinations. Overall, three participants who had been interviewed failed the bridging programme after returning to it, eventually leaving with no indication of future educational activity.

Of the 30 participants interviewed, 13 were hoping to become nurses. Four interviewees each were planning to enter future courses in teacher training, business studies, or a Bachelor's degree in social work. The remaining five participants were spread one each across studying computer technology, food technology, an unspecified university course and automotive technology, and entering the armed forces.

8.2 Interview questions and themes

The interview schedule which is reproduced in Appendix B contains the 23 interview header questions which related to six topics. These topics were revisited and continued in the second interview. Appendix C reproduces the interview schedule for the follow-up interview. From the answers given nine themes emerged. In the following nine subsections selected responses of the interview participants are presented to illustrate each theme. Self-efficacy measurements related to question topics 4 and 5 were collected from the questionnaire administered to all participants. The six topics were:

1. What is success?
2. What (academic) course was being planned to study? Why did the interviewees enter a bridging programme to prepare for the future course? Whose idea was it? How strong was that goal?
3. Did the interviewees recognise gaps in their knowledge or skill? How would they rectify these?
4. What was their language background and experience?
5. What was their self-efficacy for acceptance into and readiness for an academic course after the bridging programme?
6. What were the sources of their self-efficacy?

8.2.1 Definition of success

Success was defined by the participants as the short term goal of completing the bridging programme. Twelve participants (40%) related success to the immediate educational environment they were in. They said that completing the assignments, passing the bridging course, and knowing that they had the ability to pass it, were the measures of success for them.

Success for me is to gain ... a Certificate of Foundation Studies. ... I will come away feeling happy with my Certificate, and I can move on, to further study, whether it's a diploma or a degree.

Level 4 Male C - 1st Interview

This continued for participants in the second semester as well.

To pass! Pass all the papers that I'm doing.

Level 3 Male H - 2nd Interview

A further 12 agreed, but added a variation that it was being accepted into the mainstream course of their choice which would make the semester successful.

Having the grades that are needed to get into [named degree]. That would be a huge success for me.

Level 4 Female I - 1st Interview

Success for me is, passing the Foundation course, midyear, and being well into nursing, by the second semester.

Level 4 Female A - 1st Interview

To have achieved what I need to get into university.

Level 4 Female E - 1st Interview

The passing of examinations and gaining of high grades obviously involves the acquisition of knowledge and skills to a sufficiently high degree. Some participants specifically mentioned the feeling attached to gaining this knowledge and skills: it was having the knowledge and not just the credential or acceptance letter that mattered.

... And to feel educated, like, all the stuff was stored in my brain.

Level 4 Male C - 1st Interview

The goal is to have all the basic knowledge that I should have, to go in to my [stated future] course.

Level 3 Male H - 2nd Interview

A further variation was exhibited by three participants who had a success orientation based on an individual standard or goal they had set for themselves. They stated it was not just passing but also achieving specific grades in the bridging programme that they had set as personal goals.

Getting 'A's

Level 4 Female G - 1st Interview

Success means, .. it means to me in the academic sense, success is .. achieving that .. goal that I've set for myself, in all my subjects.

Level 4 Female C - 1st Interview

By the time of the second interview, grades set as a personal goal were becoming more important. Sixteen of the 23 participants (70%) in the follow-up interview expressed similar views.

Participant. To pass all my courses. To pass with As would be nice.
Interviewer. How about Bs, would that still be successful?
Participant. Yeah.
Interviewer. How about Cs, to pass with Cs, would that be successful?
Participant. No. I wouldn't feel that is successful. I would be annoyed with myself if that was all I got.
Level 3 Female O - 2nd Interview

I want to get into As, like that; Bs at least.
Level 3 Female N - 2nd Interview

Success would be for me, completing the three courses, that I have to, the core subjects of [named Level 5 first-year degree course], with top marks. A-plus in all three. If I only got an A minus, it would still be success. I wouldn't kick myself for it, but I would be determined to make sure I succeed in the others. It's not going to put me down, I'd just say, what did I do wrong, get it right, next time.
Level 4 Female C - 2nd Interview

Overall getting good grades, and getting above the average level. I want to get close to 100% on my grades. So, if it was through the letter system, I would want to maybe aim for A minus or A.
Level 4 Female F - 2nd Interview

Keeping those A grades. Definitely.
Level 3 Female P - 2nd Interview

In the follow-up interviews 19 of the 23 (83%) felt they had been successful in the previous semester's bridging course. This related to both the grades received and gaining entry to the academic course that was their goal. For the four of the 23 who felt that they were not successful, it was related to receiving a lower grade than they were expecting in three cases, and for one, failure to enter their proposed course.

A different view was held by three participants in the first interview. They had a longer-term view, stating that success was the actual completion of the future academic course: and that that would constitute success, and nothing before.

Actually completing the Bachelor of [named degree] course.
Level 4 Female J - 1st Interview

Becoming a social worker. Not until that time.
Level 3 Female N - 1st Interview

The 23 follow-up interview participants were asked if they remembered their grades from the bridging programme the previous semester. Participants' recall of their grades correlated very strongly with their actual grades (Pearson $r_{(n=23)} = .961$, $p < .001$). From the 23 participants, 21 gave very accurate

reports of their results. For one of the two with inaccuracies, half the grades were accurate. The participant with the lowest GSA had the least accurate reporting. Only three said they couldn't really remember, but on being asked for grades for specific subjects, even these three remembered most of the grades they received.

8.2.2 Reasons for undertaking academic study

There was a realisation among the participants that academic study was required for the course that would lead to their career goal. Despite this, two-thirds of the interviewees had not applied for those future courses. Ten of these 21 participants had made the decision not to apply themselves, because they believed either they did not have the necessary credentials, or they did not have the academic skills to enter those future tertiary courses.

Participant. I knew that I didn't have the qualifications to get in.
Interviewer. So you decided that yourself or did some-one tell you?
Participant. I knew it. I knew I didn't have enough.
Level 4 Female E - 1st Interview

I needed to find out where I was at, academically. I needed to know what level I was at, what areas I need to improve on, what areas were my strengths, and what areas were my weakness. I needed to identify the difference.
Level 4 Female C - 1st Interview

I really didn't think I had the – I did do Bio at school and things like that, but I didn't think that I would be able to keep up,.. if I just got thrown in the deep end. So I just wanted a bit more insight as to what it would actually be like, once I got there.
Level 4 Female A - 1st Interview

I knew academically I wasn't up to the standard that's being asked for. 'Cos it's been a couple of years since I was at school, so ... I knew that I would need ... more education before I went there.
Level 4 Female I - 1st Interview

Two further participants who didn't have the credentials were using the time to improve their academic literacy skills while they waited until they were 20 years old and were eligible for university admission without having a formal matriculation qualification.

Interviewer. Why didn't you apply for the course at the start of the year?
Participant. Because I didn't have any qualifications. I had to wait until I was 20, so I took the advantage that I'll be prepared by taking this course. I'll be more prepared, academically.
Level 4 Male D - 1st Interview

Several of the remaining nine participants gave the time since attending secondary school or their lack of adequate preparation in secondary school as reasons for the gaps in their academic literacy.

I had been out of school for so long.
Level 4 Female J - 1st Interview

Because of my standard of education before.

Level 3 Female N - 1st Interview

I mucked around too much in college.

Level 3 Male F - 1st Interview

Because this is the first time I've been to school in New Zealand.

Level 3 Female M - 1st Interview

Nine participants (30%) had applied for an academic course before enrolling in the bridging programme in the first semester. They had their goals directed by other people. Three of the nine sat an entry test and were told that they needed to improve their mathematical skills.

I went for the entry exam, in January, January 15th. And ... I failed my maths.

Level 4 Male B - 1st Interview

Five more were told that they were lacking education credentials in general or in particular subjects, specifically biology or English.

Interviewer. Did you apply for [named course] before coming to foundation?

Participant. Yeah. I actually did, um, but I didn't meet the requirements. That's why I'm here.

Interviewer. And so what was it that you didn't meet? What were the requirements?

Participant. I was lacking Biology credits, .. and literacy.

Level 4 Female F - 1st Interview

The ninth participant had applied too late and there were no places in the course and so had been advised to enrol in the bridging programme to improve his English language skills while waiting for the next intake.

Skill and knowledge acquisition continued for those 15 of the 23 second interview participants (65%) who returned to continue their bridging course into the second semester. With one exception, this had been the plan for these participants from the beginning of the programme.

It was always my plan to do the two semesters and to apply for [future nominated course] next year. I had to pass last semester first.

Level 3 Female O - 2nd Interview

I actually put that I wanted to apply for [future nominated course] next year.

Level 3 Male E - 2nd Interview

Often this was expressed by participants who had had the self-realisation that there was still more to learn.

Simply because I knew that Foundation Ed would take me step by step.

Level 3 Female Q - 2nd Interview

Sometimes it could also be a self-realisation forced on the participant by the situation.

No. Because .. you know .. I knew what my results would be.

– I haven't got my B averages, in all classes. It's the grades.

Level 4 Female B - 2nd Interview

There were two exceptions reported to the role of self-realisation in the returning to the bridging programme, both pragmatic.

[Entry to my future course] is only at the start of the year,.. I tried to, but they said no. I did try. But no, not midyear.

Level 3 Female P - 2nd Interview

I'm just doing Foundation Studies again because I get free foundation [courses], so .. the plan is to be a student for as long as possible, .. learning; but also, [named institution] doesn't have an intake in July.

Level 4 Male A - 2nd Interview

All participants stated that their main purpose for enrolling in the bridging programme was to gain skills that they would need in further study. The types of skills were either specific content skills or broader generic skills. In the second interview for the interviewees successfully enrolled in an academic course, the content of the course was the reason for undertaking it.

At the first interview, while the bridging programme was in progress, 18 participants (60%) stated that it was specific content and skills that they wanted to gain while on the bridging programme. Lack of knowledge, or credentials, in particular subjects such as biology and mathematics was often cited by participants as the reason for their not being accepted into the mainstream course at the time of first application. Other subjects such as chemistry, physics, business fundamentals, computing and English were mentioned, often as an addition to biology and/or mathematics.

Definitely Bio. Definitely Bio. Like, you really need to know ... everything.

Level 4 Female A - 1st Interview

Bio .. and maths ..and English.

Level 3 Female K - 1st Interview

It was maths, upgrading my maths – figures, percentages, fractions ..

Level 4 Female G - 1st Interview

I think Maths, really ... I've learned a lot. And I hope to learn more. 'Cos, there's clearly a lot that I don't know.

Level 3 Female R - 1st Interview

Definitely, my English, spelling, .. and Maths, definitely, I struggled with maths. I didn't know anything except counting on my fingers. It was quite basic, so I've learned heaps.

Level 3 Female P - 1st Interview

The remaining 12 participants (40%) in the first interview focused on the more generic skills of writing essays and communicating with people as their major needs on enrolment and potential gains from the course.

Writing essays. ... being able to speak – in front of the group, not just in a class situation where you are sitting at the desk, .. I want to be able to stand up at the front.

Level 3 Female Q - 1st Interview

Research. Writing structure. Writing paragraphs. Essays.

Level 3 Female U - 1st Interview

Some of this 40% expressed that it was their lack of academic writing experience that had brought them to the course.

I feel about it that I have to be here. That's why I'm here, because I have to learn how to do it [academic writing].

Level 2 Male H - 1st Interview

[Academic Writing] – Zero! That's something to learn on this course. Definitely.

Level 3 Female O - 1st Interview

I knew I would have to, but I didn't know how to go about ... actually doing it [academic writing]. So in February maybe [my level was] like 40%.

Level 4 Female A - 1st Interview

8.2.3 Influences on the decision to study

The decision to undertake academic study, including the bridging programme which would assist in gaining entry and participating in a future academic course, resulted from personal encouragement. Twenty-five interviewees (83%), were encouraged by other people to attend the bridging programme. Just over half of these were lecturers or support staff who interviewed them as prospective students when they first made contact with the institution. Some of the participants applied for the mainstream course of their choice and were then informed of and encouraged to enrol in the bridging programme. Three were referred by their case manager at the government department which deals with unemployment, support and training for those on social welfare benefits who are returning to work. Two of these three were not sure of their future plan but had enrolled because funding was available through the government agency. The institution also has a working arrangement with a private funding agency which supports Māori women who want to access nursing training. Staff from this organisation encouraged enrolment in the bridging programme for two of the interview participants.

This is a stepping stone, provided by the government, so, I'm just taking each little step.

Level 4 Male A - 1st Interview

Six more were encouraged by family members, friends, and neighbours who had been students in this particular bridging programme or who had family members who spoke well of its benefits. One was told about the course by a secondary school counsellor.

Three-quarters of participants (23) had members of their immediate and, in some cases, extended families who had completed tertiary courses. All but three of these reported that this had a direct influence on their entering continuing education. Even when indirect, the influence of family and whanau provided encouragement.

Participant. My Mum did nursing. And my sister's done business. Their belief in me has helped me through, too.

Interviewer. How about the fact that they've actually done it themselves?

Participant. Absolutely. That's, that's what really encouraged me to come here. Especially my sister as she's more my age than my Mum.

Level 3 Female L - 1st Interview

Yeah, it was a big influence on me, when I was growing up. I've always wanted to go to uni after that. So yeah, definitely it played a big role on me coming here and doing studies here. Definitely.

Level 4 Male B - 1st Interview

Interviewer. So having other family members who have gone on to university and been successful, done those things, did that make a difference to you about deciding to do this course?

Participant. Definitely. Definitely.

Level 4 Female A - 1st Interview

Interviewer. Having those people, before you, who have done that, did that help?

Participant. Definitely, yeah. Yeah.

Level 4 Female H - 1st Interview

Those who did not directly receive a suggestion to enrol had either studied in the institution previously or had seen the bridging course advertised on the Internet, in a prospectus or at an open day. These participants stated that although it was their own idea, they were encouraged by friends, family or partners to follow up their interest and that this encouragement was important.

Five interview participants reported that undertaking tertiary study was their own idea and either attending the bridging programme was strongly recommended because they didn't have the credentials or skills, or that it was their own decision and that they thought the bridging programme would help.

8.2.4 Expressed goals

All interviewed participants had expressed a future career goal both on enrolment in the course and as part of the study survey. The bridging programme affected participants in different ways. Eleven interviewees (37%) expressed an ultimate career goal different from the outcome of their originally planned future course. Three interviewees said that their aspiration had changed once they were on the course and that they were now unsure what they wanted to do. One of the outcomes of a course such as this appears to be the awakening of awareness or the presentation of possible career options which were not previously considered. This was expressed by one participant:

To be honest with you, I don't have much of a view on that [a future plan]; so I'm doing this course to have a view.

Level 2 Male H - 1st Interview

Thirteen of the 30 participants (43%) expressed a goal which was consistent with the course they were planning to enrol in. Three expressed a long term aspiration which was different, but for which

the present course pathway could be seen as a step towards a higher goal or as a substitute for a currently unobtainable goal. For example, one prospective nursing student reported:

I would really like to be a gynaecologist.

Level 4 Female A - 1st Interview

Similarly, a prospective armed forces ground trades recruit stated:

My ultimate goal is to be a pilot, one day.

Level 4 Male B - 1st Interview

A student aiming for a Diploma in Sports Administration expressed his dream as:

... playing league or something like that.

Level 3 Male F - 1st Interview

For about one third of the participants the actual future goal was not as set as initially stated. Five participants enrolled in the pre-nursing bridging course expressed a diverse range of alternative plans which they felt would fulfil their dreams and which were quite different from their future course option: becoming a psychologist, taking a mechanics course, staying home to bring up children, becoming a pilot, and going into politics.

The career plans for participants were elicited again at the second interview after the bridging programme had finished. These were compared with their future plan reported in the first interview. For a small number the plans had changed because of new opportunities that had presented themselves after success on the bridging course.

The original plan was just to do my Foundation course and see what happened. And then later on, I thought I'd do a diploma and a degree, and that was my original plan. I didn't know what to do with that, maybe get a management job, and then I thought, maybe I can go back into the army as an officer – .. I was a soldier in the army, previously. [This] could help me getting into the army as an officer. I couldn't before 'cos my academic records ... because of my [lack of] qualifications.

Level 4 Male C - 2nd Interview

After that course, I was going to work for six months and then do a psychology degree. But this might change. At the start of next year, I hope to do the Certificate in Performing Arts. Majoring in singing, and maybe doing a minor with bass. And I may still do my psychology degree after that, but pretty much see how it goes once I finish that.. If I get into that.

Level 4 Female E - 2nd Interview

Last semester I wanted to do Primary teaching. Well, I still want to be a primary teacher but, next year I want to go and do Fine Arts. It's a degree... it leads me into either Primary or Secondary which are the two ones that I want to do anyway.

Level 3 Female L - 2nd Interview

For others the change in direction grew out of a re-evaluation of the time and effort involved. For some this was brought on by a more realistic understanding of the commitment involved in further academic study or by not passing a requisite course.

Most definitely it has to do with the work. Such as sacrificing my needs and wants, such as, y'know, the normal part of life, like watching TV and things like that. But just those little things to sacrifice, and to study, spend time studying, and that's the main effort.

Level 3 Male G - 2nd Interview

The plan for the future – it's kind of changed. Stressing. The assignments, the work, yeah. Sort of everything.

Level 4 Female B - 2nd Interview

It's still the plan. But it has changed .. because I didn't pass Maths. I have to delay it, slightly. So, it looks that way, because I didn't pass with Intro A Maths and Intro B Maths. So I need to pass Maths to get in to Nursing. It's just a bit of a detour. It's just slowed up, that's all. Because of not passing Maths. I passed everything else but not the Maths.

Level 3 Female T - 2nd Interview

For the majority of the 23 second interview participants (n= 16, 70%) the goal had strengthened after participation and success in the bridging programme.

It's gotten stronger because .. I left school when I was young. And having a foundation education, this bridging education programme, in my life at this moment, it's given me the opportunity to recapture like my Maths, Bio, Physical Science – which was my .. um, I didn't really get a high mark for that at all at school, but getting an A-, is like really, really good. So by having the bridging education programme, it has impacted on my grades.

Level 3 Female S - 2nd Interview

8.2.5 The gains from the bridging programme

Although specific content was a common reason for enrolling in the bridging programme, participants felt that the real learning from the programme for them was the growth in personal organisation, a realisation of the workload and an understanding of the need for commitment to study. This was not anticipated by the participants on entry to the course. Sixty percent of the participants had joined the bridging programme to gain specific content knowledge. Once on the programme the most important skills participants reported that they had gained or improved in had changed. The proportion of participants who had said that they hoped they would learn was specific content had dropped from the 60% to 37%, with 11 of the 30 interviewed still identifying the most useful things they were learning as the specific subject content of the bridging programme. Biology was the common choice for prospective nursing students. They and participants from non-nursing courses also mentioned mathematics as an area with a large amount of new content learning gained from the programme.

The 40% reporting that on entry they were hoping to gain generic skills had also reduced, to 23%, with 7 participants stating at the time of the first interview that the most important skills learned were the skills such as essay writing, summary writing, paragraphing, spelling and using academic vocabulary.

I think communication, oral and written, was a big one. 'Cos, like at school, they don't really teach you how to write proper essays, .. and the academic language is really different.

Level 4 Female A -1st Interview

The change can be traced to the 12 interviewees (40%), who said midway through the one-semester course, that the most useful things learned on the course, so far, related to personal organisation, coping with the workload, and the need to commit themselves to academic study. Seven of these 12 interview participants spoke of learning to prepare for academic assessments and to prepare and motivate themselves to do what they needed to do to achieve success.

This realisation of personal growth continued after the course had finished with only five (22%) at the follow-up interview specifically mentioning particular subjects as the most important thing they had learned from the course. Eight participants (35%) who were by then using these academic skills in their next course, highlighted academic skills rather than subject content.

How to write an essay. And how to plan it, to plan an essay, to be able to write an essay for, for example, a 1200 word, what we're doing at the moment. That's helped a lot. Like, having all that practice, ...

Level 3 Female S - 2nd Interview

Well, pretty much the whole of the Communications course, was good, because it was a lot of different styles of writing, essay writing, summarizing, doing presentations, that was actually really helpful, doing the presentations. Because, this semester I keep getting .. I keep ending up being the spokesperson for our group.

Level 4 Female E - 2nd Interview

We learnt business reports. How to apply them. The other thing was learning about oral presentation – that was really important. Group activities, where you .. just basically, being in a group, but being involved in the activity itself, you know, you can be quiet in the group, but they really ask for your participation in the group. That's what they taught you in Foundation. The other thing was writing essays, but that doesn't really apply here. We don't write many essays here. It's all like you just take notes on what you learn. The jargon. I learnt the jargon over there [on the Bridging Course], I did. I understand them here. Whereas the rest of my class now, don't understand them.

Level 4 Female C - 2nd Interview

The gains from the bridging course appear to have assisted in improving self-efficacy. Many participants commented on how what they had learned and experienced in the previous semester had helped them in their academic course with regard to academic skills, confidence to participate more and in understanding academic vocabulary.

The remaining 11 (48%) mentioned more generic skills related to commitment to academic study and aspects of personal growth.

Time management and continuous study. Like, revising at home was probably the biggest thing I learnt.

Level 4 Female A - 2nd Interview

The most important thing I learned was, actually, it was not even to do with academic levels: it was mixing with all the different cultures of students, and helping where I could help. Like in Maths, helping there,—being a Student Advocate and things like that.

Level 4 Female G - 2nd Interview

One was even more general and summed up one of the aims of the bridging programme.

They've taught me so many life skills that I didn't know about, and this, it's given me the enthusiasm to want to study more.

Level 3 Male G - 1st Interview

The amount of work continued to be mentioned in the second interviews as the most important learning occurring on the programme.

Studying really hard. Actually, .. actually just studying. Just .. studying. It really pays to go home and study. ... And don't try and wing it. Definitely, the need for study. Yeah. It's really having to go home and make sure it goes in, you know, so you'll .. and getting assignments done, and yeah. If I wasn't doing that, .. I wouldn't be here.

Level 4 Female J - 2nd Interview

Probably ... um, making a lot of time for it at home, just as much time for it at home, and ... completing everything. I feel really comfortable. I don't feel ... nervous about doing assignments and things, I sort of know what to expect.

Level 4 Female A - 2nd Interview

I learned that I have to learn it!

Level 3 Male H - 2nd Interview

Others specifically mentioned the gain in personal confidence.

Self-belief I guess. Believing I can do it.

Level 3 Female L - 1st Interview

I have matured, .. grabbed some more confidence.

Level 4 Male A - 1st Interview

Several saw personal growth in their ability and confidence to communicate

80% of the time you're communicating. Communication is a major part.

Level 3 Female Q - 1st Interview

How to communicate with people. Because I was shy to communicate with people. I'm a shy person.

Level 3 Female U - 1st Interview

Probably doing an oral and visual presentation, which you have to get up in front of the class and ... and speak. It sort of helped my public speaking skills, more. They've developed. Before I was sort of inclined to wonder whether to get up, or to find some sort of excuse not to.

Level 3 Male E - 2nd Interview

Self-efficacy for future study increased as a result of participation in the course. The introduction to and familiarisation with academic vocabulary, through reading and the manipulation of it through writing created confidence in the academic skills in this often new environment. Not all anxieties were

overcome but all participants reported aspects which enabled them to feel more confident in their dealing with the amount and level of study at a new higher level. Academic literacy skills, specific content subjects, personal confidence, communication, study management and examination techniques gained from the bridging programme all raised participants' self-efficacy for further study. Participants were able to identify how that confidence and improvement was obtained.

As I go on my marks get better, I guess that's encouraging me more in to believe in myself.

Level 3 Female L - 1st Interview

Hanging around with the good crowd. I didn't do much before because I used to hang around with the wrong crowd. Not that it was their fault. It was me. I knew what I was doing.

Level 3 Female K - 1st Interview

Just being in the training environment. Surrounded by people .. close up. The teaching environment. Active listening. Reading and note taking.

Level 4 Male A - 2nd Interview

Overall, all participants reported that they had learned important content, skills or understandings about themselves on the course. One participant had a comprehensive list of generic skills that were all considered important parts of the learning that had occurred.

You have to work as a team. It was like the team working together. And then there is the workload, you need to take into consideration, how much work you're going to need to put in, to pass. You need to know how to manage your time properly, .. and fitting in the family commitments into that as well.

Level 4 Female I - 1st Interview

8.2.6 Self-efficacy and future course entry

Participants were asked to rate self-efficacy for being accepted into a future academic course and their self-efficacy for their readiness for future academic study. Self-efficacy was reported in the interviews on the same percentage scale used in the questionnaire with six labelled descriptors at 20% intervals. A report of 0% indicated that participant felt that she or he could not achieve the task being discussed; 20% meant 'Not very sure'; 40%, 'Maybe I can'; 60% 'Fairly sure I can'; 80% 'Pretty sure I can', and 100%, 'Completely sure I can'. In the reporting here the semantic labels have been used with percentages describing the proportion of the interview participants stating their belief at each level.

In applying for a course, the interview participants were fairly evenly split between those planning to apply for the future course of their choice at the end of the current first semester (n = 13) and those planning to apply at the end of the year (n = 14). For some of those in the latter group, the course which they were planning to enrol in did not have a mid-year intake. Other participants had committed themselves to the full year of the bridging programme on enrolment. The remaining three gave a planned enrolment time later than the start of the following year.

When the 27 participants who were planning to apply either at the end of the semester or at the end of the year were asked to state how confident they were about being accepted into the course, 11 (41%)

said 'Pretty sure I can', and 7 (26%) said 'Maybe I can'. The remaining nine, were 'Completely sure'. Of these, five were in the Level 4 Advanced Foundation programme, and four were successful in being accepted for the course of their choice. The fifth had to wait until the following year's intake, but was then successful. Of the remaining four who were on the Level 3 Foundation programme, three were successful after returning to the bridging programme for a further semester. This indicates that the high level of self-efficacy in being accepted for future courses was fulfilled.

A further measurement of self-efficacy was gained by asking participants if they felt ready for further study. The interview data were correlated with the actual outcome of participants' applications for future further study, but the result was not significant ($r_{(n=27)} = \cdot075$, $p = \cdot709$). Similarly there was no correlation between self-efficacy for readiness for further study and academic outcome as indicated by the GSA in the bridging programme ($r_{(n=148)} = \cdot017$, $p = \cdot834$). Thus, self-efficacy for readiness for further study was not related to acceptance outcomes or grades.

8.2.7 Personal experience and gains in self-efficacy

Personal experience influenced participants' self-efficacy. This experience was gained from attending the current bridging programme, previous contact with academic material, and previous participation in training courses. Self-efficacy was also influenced by personal confidence. This confidence can be gained at different times throughout the educational journey.

A. Gains from the current bridging programme

Specific questions asked participants to rate their self-efficacy for academic literacy in areas of academic reading, academic vocabulary and academic writing, speed reading, and spelling. The interviewees were fairly evenly split between those who felt confident with their academic skills and those that did not. In the question asking about reading and understanding academic texts and articles, 18 of the 30 participants interviewed expressed that they had little exposure to academic texts; three said only at, and not since, secondary school. Only nine reported that they had some experience and that this improved their self-efficacy for understanding academic texts. In academic vocabulary, 17 said they had difficulty while 13 felt their knowledge was sufficient. In academic writing 16 felt they were having difficulty while 14 were now confident of being able to write essays and reports to a required academic standard.

Participants felt that gains in academic literacy skills were achieved by attending the bridging programme and when asked how they had learned these skills, many participants suggested both the course itself and its delivery as factors supporting or promoting their self-efficacy for future study. Participants indicated that a wide variety of aspects of the course had helped them increase their self-efficacy for further study. These included learning academic vocabulary, essay writing, particular content areas, communicating with others, building personal confidence, and study and examination techniques.

Several participants commented that their academic vocabulary had improved while on the course.

At the beginning, I'd say it [my academic vocabulary skill] was about 50. And now I'm pretty sure I can. Around the 80. I'd like to say, go here [100%] but there's still a bit more I can do.

Level 4 Female G - 1st Interview

For at least one participant the academic experience had challenged his previous knowledge

Before (the course), probably ... you know I always thought I was fairly sure [of reading and writing academic material] – 60 – 70%. ...But now .. probably about 40%.

Level 3 Male E - 1st Interview

As mentioned, although nearly half the interviewees were confident in essay writing, slightly more were still having difficulties, as evidenced below.

Ooh, writing essays, probably not too confident at the moment. Probably 20%.

Level 3 Male E - 1st Interview

Many commented that their ability had improved during the course.

Participant. I wasn't that good at writing English. I'd say about 80% now.
Interviewer. Has that changed since you've been on the course?
Participant. Yes.
Interviewer. Where would you rate yourself at the start of the course?
Participant. About 20%.

Level 3 Female K - 1st Interview

This is where ... when I first came to [named current bridging course], I would have been about there ... about 40%, and now I'm here, [60%], I can say about 20% (better).

Level 4 Female G - 1st Interview

Participant. Um ... Not confident. But I am getting better. And my confidence is building. Yes. That comes from being on the course. Yeah.
Interviewer. Where would you put yourself, now?
Participant. Probably at 40.
Interviewer. And before the course?
Participant. Aah, between 10, and 20.
Interviewer. And do you think that's going to increase as the course goes on?
Participant. Yes, it will. Yes. Hopefully close to 100.

Level 3 Female Q - 1st Interview

Yeah, like doing brainstorm, and outlines and looking at outlines, and do your bar graph and your essay ...Here [60%]. Before the course started, ooahh. I'd say nothing. Maybe here [0%]. Here [0%] Yeah.

Level 3 Female U - 1st Interview

Participant. For writing essays, I'd say I'm 80% sure now.
Interviewer. And when you joined this course?
Participant. 0%. Definitely.

Level 3 Female P - 1st Interview

To the question what parts of the bridging programme may have helped improve their academic skills, the replies ranged from 'everything', to particular subjects such as biology, mathematics, and computing.

The whole lot really. Every single course that I do, teaches you something. I'm happy to learn everything and anything they teach me.

Level 2 Male H - 1st Interview

Everything. Everything that I've been doing. I can't narrow it down to one thing.

Level 3 Female O - 1st Interview

In addition to the content, more generic learning skills were also developed.

Just knowing how to pick out the words that I've never seen before, that will be able to help me in my career. Everything. That'll all be able to help me – just organise my stuff...

Level 3 Female S - 1st Interview

Communication in general terms was seen as one of the key skills learned.

Well, we communicate every day, so I think it's that. I was told that Biology and Maths are the most important things in nursing, but I actually feel that one of them also is communication, because you communicate with the patients, you communicate with the doctors, you communicate actually with your colleagues that you work with, and you have to sort of be, you know, quite good at communicating.

Level 3 Female T - 1st Interview

The research as well, conducting surveys, it helped me to communicate well with others.

Level 4 Female F - 1st Interview

Self-confidence was also recognised as an important individual gain for participants from attending the bridging course.

Everybody else's belief in me, I guess. It's just been since the day I started ... everyone's always told me I'd be fantastic and stuff. And I don't know, it just pushed me.

Level 3 Female L - 1st Interview

And have more faith in myself.. in what I say, and in what I do.

Level 4 Female G - 1st Interview

Some of the gains in confidence came from gaining familiarity in particular cultural settings. For recent migrants the confidence appeared to come from realising that they could operate in a New Zealand academic environment, particularly in communicating in English as a second language.

The thing is ... I feel confidence... I believe ... I can do it. Because I've learnt a lot from here. Probably oral communications. When I came from the island, the written stuff is all good, but sometimes, I don't feel like talking, and now I can speak a lot.

Level 3 Female M - 1st Interview

For some English-speaking New Zealanders the learning was reportedly about relating to others in a bi-cultural and multi-cultural setting.

Participant. I studied about the culture,
Interviewer. About different cultures?.. OK. And you didn't know that before?
Participant. No, I didn't.

Level 3 Female N - 1st Interview

I guess ...in my point of view, the Treaty (course), it actually helped me to open up to other cultures.

Level 4 Female F - 1st Interview

The fact that the bridging course introduced participants to academic study examinations and the workload required for tertiary study was perceived to help self-efficacy.

We've had a couple of exams, ..with credits and stuff. They helped. (You) just learn more, actually, and um ... I'll say, oh, I didn't know that, you know; I need to work on it a bit more.

Level 3 Male F - 1st Interview

It [the bridging course]'s probably been a motivator – I know I have to do it. You know, I can't just rest on my laurels and expect everything to be handed to me on a plate. It's pretty much up to me to set my future goals.

Level 3 Male E - 1st Interview

The exam results. Actually, having exams ...and then getting a good mark. Otherwise you'd be just floundering though it, wouldn't you. You wouldn't know.

Level 3 Female R - 1st Interview

If I apply myself more, .., and it'll just be working hard, just to get there. So I understand what I'm getting myself in to.

Level 4 Female I - 1st Interview

Going through my classes and learning, like, how lecture classes are going to be like, in nursing.. taking part in classes .. taking notes, from lectures..

Level 4 Female B - 1st Interview

Attending, attending classes, and ... taking in what's been; taking in notes from lecture, and putting my head down for assignments

Level 4 Male C - 1st Interview

B. Gains through previous contact with academic material

The participants' own experience of academic material came from previous contact with it in secondary school, in opportunities gained from work experiences, previous courses individuals had enrolled in, and their success in such courses. In some cases these were part of the participants' personal attitude and self-perception.

When it came to participants' experience of reading academic texts, 60% had little or no experience and a further 10% reported secondary school as the last contact with reading this form of text. The remaining 30% however had had contact with academic texts and rated their ability to cope with them highly.

For others, reading had resulted from opportunities in the work place.

I used to work for a health provider, so I used to work with a registered nurse every day, so I sort of had a bit of experience. I think I was pretty good at reading and understanding. I think probably about 70.

Level 3 Female R - 1st Interview

The personal experience of individuals often affected future actions. There was also mention of the effect generated by foundation and bridging education courses.

I attended the Foundation studies programme, in Dunedin, at [named tertiary institution]. I had like a general background, and that, but during my school days, I didn't really pay attention back then.

Level 4 Male D - 1st Interview

The way people are treated during those experiences can also have a significant effect. This is especially true in a learning environment.

Probably the tutors, the way they've been teaching us, it's quite helpful.

Level 3 Male E - 1st Interview

The teachers are friendly.

Level 3 Female K - 1st Interview

I would say it's the lecturers. Their motivation and their drive ... for us to succeed. And that attitude helped me to change my attitude. It was the lecturers who said, "Come on you can do this", and it's ongoing. Just that commitment to you, if they see the potential. It's like fishing, like they're reeling you in like with a bait, and they just keep on drawing you in, and that motivates. It was their attitude that changed my attitude. There was no way that I liked Maths – I would actually say I hated Maths – today I looove Maths. It's the attitude here.

Level 4 Female C - 1st Interview

How every lesson the teachers go over and make sure everyone individually understands; that's been good. In Comms, the teachers are great, they explain everything. And Maths, and other subjects – the same thing. Booklets, with everything; giving you websites as well to help you, extra help if you need it. It's mainly the teachers and the way they teach, I feel they do it more individually and they really want to teach you, and they don't choose favourites, they genuinely care, and want you to pass. It's the teaching.

Level 3 Female P - 1st Interview

C. Gains from previous experiences at training courses

Personal experience also related to previous contact with training courses. The participants were fairly evenly divided between those who had attended courses before and those who had not. The type of course was often a function of age. In nearly all cases those participants who had been in employment had completed on-the-job training. The younger participants had completed certificate courses after leaving school. Others had attended a variety of free and community courses in subjects such as computing, office skills, security services, health care, warehousing, fork-hoist driving, bar work and call centre operation. Participants commented that attendance on these courses and their success on them encouraged them to undertake more training. It seems that the positiveness of success was transferred to this bridging programme.

Interviewer. And did that, because you'd passed that course, did that encourage you to think, well, yeah, I can actually do this.

Participant. Yeah. It did actually.

Level 4 Female J - 1st Interview

Of the 14 participants who had not attended other post-secondary courses, nine were from the younger group and had left secondary school the previous December. Three more were under the age of 20 years and had been at home and had not worked or attended any course. The remaining two were women who had been home-makers and full-time mothers and were now looking to engage in further study or pursue a goal that they had been unable to before.

Since then ...I've been a mum. This is the first [course]– the first step back into school – back into education, again. ...

And when my son turned 18, I said, you've got a job, you've got friends, mumma needs to go out and advance herself academically now. And I'm here because I want to bring up my academic level, [so I am able] to help people.

Level 4 Female G - 1st Interview

Similar patterns of the influence of personality, workplace opportunity, family and further education were mentioned by the group that had had little experience of academic reading.

I've never read. Never. Well, no, 'cause I didn't even do fifth form at school, so as soon as I was 15, I was out of there.

Level 3 Female O - 1st Interview

I wouldn't pick up a text book and just look in it, no.

Level 3 Female P - 1st Interview

I've, reading different manuals and newspapers ... and magazines, ... apart from that, nothing. The jobs I was in, I didn't find it necessary to ... to read all those ... big bound text books.

Level 3 Male E - 1st Interview

During the time I was a mother. I didn't do a lot of reading back then. So, after school, very little.

Level 4 Female J - 1st Interview

Just since I've been on the course.

Level 4 Female I - 1st Interview

Many of the participants who expressed difficulty in reading attributed it to their lack of academic vocabulary.

Last holiday, actually, I did pick a book from the public library. But there's too many academic words. Like, I just read up 5 pages, in 2 hours. I read that word and look up that meaning in the dictionary, and that's too hard. I just read 15 and 20 pages in all and I give it back to them.

Level 2 Male I - 1st Interview

Academic [text] is like a foreign language to me. I'm struggling with understanding what I have to read. But once it's pointed out and explained to me, it's a lot better. But if I have to read it myself, no. [I have] deliberately not chosen [to read] it.

Level 4 Female D - 1st Interview

[It's] the big words. The words that I don't understand. Maybe that's the biggest problem.

Level 3 Female U - 1st Interview

The lack of experience with academic writing had been expressed by some as a particular reason for coming to the bridging programme. However, half the interview participants were confident in academic writing

Very. Very confident. Yeah. That's my favourite, writing essays and all, probably 90 to 100. Very confident.

Level 4 Male B - 1st Interview

Actually, quite good. ... Yeah. Up in the 90s. Yes. Because it's explained, quite thoroughly, then, it's quite easy. It is because when you listen, and you listen to how it's supposed to be written out, and how it's supposed to be done.

Level 4 Female C - 1st Interview

Some expressed a confidence but in a different way

About 60%. I hate doing it, but... I know I can

Level 4 Female E - 1st Interview

D. The onset of confidence

While there appears to be clear support for the bridging programme being a positive factor in self-efficacy for further study, self-efficacy for readiness appears to relate differently for about half the participants. It has already been noted in Chapter 6 that self-efficacy for readiness for future study bears little consistent relationship to academic literacy, academic outcomes or acceptance into a future course. This was thought that it may have been due the nature of the question, however a check between the answers given in the survey and in the face-to-face interview showed that answers were similar. This was confirmed by correlation co-efficients which showed very similar relationships between the self-efficacy ratings whether obtained by interview or questionnaire.

The interviews did show that the onset of self-efficacy for readiness can occur at different times. It can exist on entry, be fostered during the bridging programme, and built up towards the end of the course. On average, self-efficacy increased as time in the bridging programme went on. It also increased as participants were more successful, and entered the future programme, showing that they were more confident once they were participating in the future course of their choice.

Confidence was examined in participants' self-efficacy for readiness to enrol in a future academic course. In the first interview half way through the bridging programme the participants were split into those who felt they were ready then ($n = 16$) and those who did not ($n = 14$). In the second interviews near the beginning of the second semester the 23 participants were asked to rate their self-efficacy for readiness for the academic course of their choice. They were divided into those who were gained entry to the future course of their choice ($n = 8$), and those who returned for an additional semester in the bridging programme ($n = 15$). The mean rating of their self-efficacy at the beginning of the bridging programme for the group of eight was 46.3%. When the eight were asked what their self-efficacy for readiness for their course was then, the mean of the ratings was 78.8%. The eight were also asked to report how confident they felt about completing the course at the end of the semester; the mean of the eight ratings was 89.4% that they would complete course. The 15 other interviewees who returned to the bridging programme in the second semester were asked what their self-efficacy was at the beginning of the bridging programme, for their self-efficacy for further study at that time, and how

ready did they think they would be by the end of their second semester of the bridging programme. The mean self-efficacy scores were 46.7% at the beginning, 71.0% at the beginning of the second semester, and 89.4% at the end of the course. The means of both groups increased by participation in the bridging programme at similar levels regardless of acceptance into a future academic course or returning for a second semester in the bridging programme.

Nine of the 30 rated themselves at 100% for readiness at the time of the first interview. This means that they felt they were 'Completely sure' they were ready to participate and succeed in a future course of their choice even though they had not completed the programme. Two of these came into the bridging programme believing that they were 'Completely sure' they were ready at that time for their future course. A third participant explained that while the potential was there the realisation and the opportunity to enter the future academic course had not been.

Interviewer. Where on this scale would you put yourself for readiness for your future course?
Participant. There. [100%]
Interviewer. You're completely ready?
Participant. Oh yeah. I mean, well if Obama can say 'Yes, I can', then I will.
Interviewer. Right. And has that changed since you've been on the course? ... Or were you always ready?
Participant. Uhm. Probably I was always ready, but I didn't really know it, plus the opportunity didn't come its way, at the time. I've just been waiting for something like this to sort of open up, and it just opened up, so I just stepped into it, and I'm thinking yeah OK, fine.

Level 3 Female T - 1st Interview

Another three who felt that they were now completely ready credited the course with raising their impression that they could now participate in an academic course. The three considered that they would have rated themselves at 0%, 10% and 20% on arrival into the course.

Participant. I feel that I'm actually ready.
Interviewer. Ready right now?
Participant. But if you would have asked me this like even three, four weeks ago, I would have said no, no way.
Interviewer. If we go from zero, meaning I can't do it at all, through I'm sure I can, to being completely sure I can, you saying right now you're ...
Participant. Yep. 100%.

Level 3 Female S - 1st Interview

However, in the subsequent semester five participants of these nine who were available for the follow-up interview all rated themselves slightly lower than they had during the first semester. Their 'Completely sure' rating that they could cope with the work in an academic course, had become a little more realistic ('Pretty sure I can') now that they were in this future course.

Eight others who at the first interview felt they were ready for their course rated themselves at the 'Pretty sure I can' mark that they would cope with the academic content of their future course. All eight reported that this had resulted from what they had learned on the course.

Of the 23 participants interviewed in the second semester, 14 rated themselves at or slightly above the 'Pretty sure I can' mark at the time of the interview soon after the start of that semester. When asked to think back to what they thought their ability to operate in an academic environment was when they entered the bridging programme, eight of these 16 said that they were 'Not very sure' they could. The other eight were a little more sure, with four at the 'Fairly sure I can' mark.

Six participants felt they were not completely ready for their future course and rated their level at the time of the interview at the 'Fairly sure I can' level. Three rated themselves below this, mostly around the 'Maybe I can' position. One of these participants, although rating herself at the 'Pretty sure I can' mark, said that even if given the chance to go on to the academic course of her choice immediately, she would prefer to continue with the bridging course because of its value for her future study.

- Participant.* *I think ... I would want to finish the course, first. Yes, I would want to finish the course first. Because, I think everything we are learning is really important, and like, the work load is really big, so it's really getting me prepared for ... what's coming. So I would probably want to, to be honest, to finish it.*
- Interviewer.* *Where do you feel you are [about being ready for the future course]?*
- Participant.* *I'm pretty sure I can. About 80%.*
- Level 4 Female A - 1st Interview

8.2.8 Observation of others, persuasion and self-efficacy

The actual observation of others often has a major influence on an individual's feeling of self-efficacy, second only to one's own personal experience. Participants were asked whether they knew of other family members or previous friends who had been on bridging or tertiary courses or had a plan similar to the participant's future goal and whether this had any effect on them.

My husband was studying at the same time, so I would read his books.

Level 4 Female C - 1st Interview

Our whole class group... the whole lot of them. We do get together, but yeah, the ones that I've started off with. We get together, we have a study group, you know, we encourage each other. I've just created a study night, for tonight, you know, just from being in Maths, so we're going to get together and work ... yeah. The tutors, the lecturers – they always help and encourage us.

Level 4 Female H - 1st Interview

Friends from the class here, ... And friends from back home.

Level 4 Female E - 1st Interview

The family was both a positive and a negative influence on the participant's decision to attend and to enrol in a bridging course, however. Persuasion by others was seen as a positive force when it takes the form of encouragement. It can be verbal or can manifest itself in actions providing support for the participant's involvement and continuation in the course. Twenty-four (80%) of the participants expressed that they did receive support from some-one to enrol in the course. All but one participant expressed that they had received support from some-one while on the course.

The most common encouragers were parents, both collectively and individually with fathers and mothers mentioned equally. Partners and siblings were also mentioned. One comment made by a school leaver in her second semester of study, in answer to the question 'Did anyone encourage you to enrol in this course?' showed that sometimes it took time for the encouragement to be offered:

No. In actual fact, my family um .. thought that I might get bored with the whole ... studying thing, so they weren't supportive in the start until I... passed last year. And they thought, oh my god, she's really into it, .. then they were supportive.

Level 4 Female I - 1st Interview

Other people who encouraged participants to join the course were teachers, counsellors, work colleagues and respected friends. The government department responsible for finding work placements for unemployed beneficiaries could possibly be said to come under this category. An example of collegial support from the workplace sums up the comments from many.

There was a three-month health care assistant course here, I found out about it at Auckland Hospital. So a lot of the workers, they encouraged me to go and do it. So I come here to do it.

Level 3 Female T - 1st Interview

Supporters of participants while on the course were family, both nuclear and extended, partners, and friends made on the present course and beyond, and work colleagues.

My Mum. She's told me she's quite proud of me, that I'm actually doing something.

Level 4 Female D - 1st Interview

Friends really. We help each other. We encourage each other. And my mum... and dad. My sister, and my uncle – they ask me how it's going and encourage me by taking an interest.

Level 3 Female K - 1st Interview

My girlfriend, my mother, ... other people, like my flatmates, when they see me doing my work, sometimes they want to help, or sometimes they go, well done when they see my results.

Level 4 Male C - 1st Interview

Sometimes the support was a bit more than encouraging.

My Dad. 24/7. My grandparents who I live with—all the time! She hates it when I'm not studying.

Level 4 Female A - 1st Interview

Some felt this was a pressure rather than an encouragement.

My sister goes to [named university]. My parents you know, they expected... they kind of expect the same thing from me, in a way. It's harder. I've got to step up, you know. [There's] pressure.

Level 3 Male F - 1st Interview

I have family members that are .. that have been through university and .. they're not siblings, they're like aunties and uncles. It kind of pressured me. My parents, yeah.

Level 4 Female B - 1st Interview

Both my brothers have. I think it was harder, because I could see the input they did, and I wouldn't want to do that.

Level 4 Male A - 1st Interview

The influence of friends was acknowledged by just over half of the participants. These positive influences came from friends made on previous training courses and at school, friends who were working in the same goal profession, colleagues in the workplace, and friends from church.

Those who said that they were not influenced by friends felt that what they did in their lives was their own decision. Several felt that the wishes of family were more powerful than friends. Others made comments that it was harder to come to the course because it was a break away from those friends.

It has made it harder. 'Cos they don't have the same interests as me now.

Level 3 Female S - 1st Interview

8.2.9 Learner satisfaction, personal attitude and self-efficacy

A response of satisfaction with the bridging programme related to increased personal positive reactions. Particularly in the follow-up interviews participants expressed positive reactions and satisfaction with the bridging programme they had experienced the previous semester.

Everything was useful.

Level 3 Female N - 2nd Interview

I'm so happy I made the choice [to do it].

Level 3 Female S - 2nd Interview

Of actually coming into [named degree programme] .. everything done there was spot on.

Level 4 Female J - 2nd Interview

I felt like what I was learning was what I was supposed to be there for.

Level 4 Female D - 2nd Interview

When asked for further comments many continued outlining specific courses such as:

All the courses really. All the things that were required in the courses. All the Level 3 tests and assignments helped. I mean Level 3 Bio, I'd never done science before, not even in school. So all the things there really helped.

Level 3 Female O - 2nd Interview

A test of the satisfaction felt by participants might be if they felt they would recommend the bridging programme to others, now that they have completed it. There was a strong endorsement from many of the participants interviewed. The participants were asked what they would say to one of their friends who was thinking of enrolling for the foundation programme.

Definitely come. It really helps. It gives you the structure of what you have to learn. It is a good way to start study. When you've been out of school for so long, and you have to start, they show you what you need to do. They help you to do it.

Level 3 Female O - 2nd Interview

I would say they should definitely do it: it's a really good course. Yeah, it's probably the best thing I could have done, when I moved up here, is to do that course.

Level 4 Female E - 2nd Interview

Oh, I already have. One of my friends, he's in this course, because of me, I mean not because of me, but he saw that I was doing it, so he's doing it now, and that's good, I encouraged him to do it.

Level 2 Male H - 2nd Interview

Absolutely. Because if I didn't do Foundation. I would be in the deep end over at the degree. And I know a girl who went straight into the degree, and she said to me she wishes she had done [the named bridging course], because of the science and all that – is just way over her head.

Level 3 Female R - 2nd Interview

A. Physiological reaction as an indicator of personal attitudes

Self-efficacy literature suggests a fourth common influence after personal experience, vicarious observation and persuasion/encouragement by others, is the physiological reaction to an intended behaviour. This physical reaction can often be described by the attitude an individual has about something that is intended to happen. The psychological expectation often manifests itself in a physical reaction but is often expressed verbally, positively as excitement, and negatively as anxiety. The majority of interview participants (n = 20, 67%) expressed a positive attitude towards their future course. They said they felt excited, happy and proud and found the thought of it personally motivating. This appears to have increased their self-efficacy.

I feel good. I am proud that I am going on to do it. My interest has gone up. I can't wait to get into it.

Level 3 Female K - 1st Interview

Passionate. Very passionate. I love facing it. I love being on that line. If I could start tomorrow, I'd start tomorrow. [This course] has made it stronger. It has made me stronger to get to that goal.

Level 4 Female G - 1st Interview

I'm quite excited to do it. I feel like we've learnt a lot here, and feel pretty ready to get in there. I feel pretty good about it.

Level 4 Female A - 1st Interview

For many there was a realistic understanding of the time and effort involved. This created an ambivalence for some and motivation for others. Others experience both emotions simultaneously.

Honestly. I like challenges, I think being under pressure, I actually work a lot better. I noticed that, if I'm a little bit pressured, like you've got your assignment due, in three days, that actually gets me challenged to complete it. I'm actually ... more confident in that. I love the challenges. I just – I strive to attain, to get those goals. I don't know, just the way I've been all my life. Definitely. Oh, yes.

Level 4 Female C - 1st Interview

*Oh, it's good, yeah. It feels like, yeah, it's just like ... you just want to get it, yeah, it's .. you want to get on to it, get on with it? Hungry!
Some people work under pressure, I do, you know. I'll pull out my books, and make sure that I do something. [This course] it's been a confidence builder, self-esteem, you know.*

Level 4 Female H - 1st Interview

I'm excited that I'm going; I'm scared that I'm going. I'm anxious that I'm going. But I'm determined to do it.

Level 4 Female D - 1st Interview

I'm more like, ... nervous on ... like, the shock of how much work there may be. I guess I don't want to underestimate it, the work, that's going to be handed to us. But I also don't want to overestimate it. So, I'm just worried that I'm capable of, you know, achieving it. Yes, I'm excited, I'm excited to what my future brings, to be honest.

Level 4 Female F - 1st Interview

For a third of the interview participants however there was genuine concern about how they would fare in the future course. Nevertheless, most participants had gained confidence from the bridging course which they did not have before.

*I am so worried. To the point my stress management is yeah, over the top. It's like I'm stressed but I'm using the stress in a good way to push myself to ... to study, and just read, and not watch TV. I'm trying to stop things— watching TV and things like that.
Oh, yes, my confidence has totally changed [from being on this course]. I've never had this confidence, ever, in my life, actually. To tell you the truth, I don't really know who I am now. I'm a totally different person. It's like I've been transformed into somebody else.*

Level 3 Male G - 1st Interview

*It's actually quite nerve wracking and scary, because you're going ... well we call it bigger than foundation. And 'cos it's like we're nurtured in foundation, then you've got to go into, like the big kid's school, so yeah, it's quite intimidating 'cos you see all these brilliant minds already up there, that didn't go to foundation, so it's quite scary.
I think I'm a bit more confident to apply myself more. The girls in my class are awesome. So when we are, when we do need help, they're there to help. And support from the lecturers as well.*

Level 4 Female I - 1st Interview

8.3 Changes in self-efficacy

The five questions which related to self-efficacy for current academic literacy skills—reading, vocabulary, reading speed, essay writing and spelling—were repeated in the follow-up interview. The self-efficacy scores recorded in the second interviews were compared with the written reports from the self-efficacy survey. Of the 23 participants who were located for the follow-up interview in the second semester, had completed the self-efficacy survey in the first semester.

The 20 participants' responses to the five items gave 100 comparisons. The self-efficacy ratings for each of the levels of the tasks were calculated using the same procedure as the self-efficacy survey outlined in Section 3.6.3.A Questionnaire. The differences between the survey and second interview for each interviewee ranged from a drop in self-efficacy of -54% to a rise of 75%. A margin of change

in self-efficacy scores of less than 10% was considered to be no substantial change in self-efficacy. Forty of the 100 comparisons showed an increase in self-efficacy, 38 showed no substantial change, and 22 showed a decrease.

All five items showed an increase for some participants and a decrease for others. The greatest increase in self-efficacy was recorded for essay writing where 11 of the 20 interviewees showed a positive change of 44% in the mean. The decrease in self-efficacy for essay writing was a mean of -21% by three interviewees. In contrast, the greatest decrease was in the self-efficacy for Reading Speed which decreased by a mean of -32% over four participants. At the same time 10 interviewees felt their reading speed had increased. More participants felt their vocabulary knowledge had decreased (n=6, -15%) rather than increased (n=5, 35%). The mean increases and decreases of each of the five items are given in Table 8.1 and reflect a mostly greater increase in self-efficacy than decrease. A decrease in self-efficacy can also occur when students gain a greater understanding of what is required by attending the bridging programme and realise that there is more to be learned.

TABLE 8.1

MEAN CHANGES IN SELF-EFFICACY: COMPARISONS BETWEEN SEMESTER ONE AND TWO

Mean (n=20)	Reading		Vocabulary		Reading Speed		Essay Writing		Spelling	
	n	%	n	%	n	%	n	%	n	%
Increase	7	38%	5	35%	10	30%	11	44%	7	39%
Little change	8		9		6		6		9	
Decrease	5	-23%	6	-15%	4	-32%	3	-21%	4	-22%

Further analysis of these data was undertaken by adding the differences for each participant across the five items. This means if a participant had 0% self-efficacy for each of the five items in the first semester, and increased their self-efficacy to 100% in each of the five items in the second semester, the total would be +500. For the 20 participants there were five negative totals ranging from -3 to -108, and 15 positive totals ranging from +1 to +290. An total of +290 is a considerable increase in self-efficacy over the semester. Those with the lowest self-efficacy scores in the first semester had the better opportunity to increase their scores in the second, and this is where the greatest gains were recorded. Participants with the highest self-efficacy scores in semester one had less opportunity to increase and they remained virtually the same with the greatest difference being less than an average 5 points per item. The five participants with negative differences were not clustered in any demographic, academic literacy or self-efficacy band.

Overall, self-efficacy for the 20 interviewees increased between the first and second semester. This is confirmed by reports of the positive effect of the bridging programme on learner satisfaction and self-efficacy reported in Section 8.2.9.

8.4 Summary

When adults entered the bridging programme they believe they would succeed in it. The definition of success given by most participants was the short-term goal of completion of the bridging programme. However, definitions ranged from passing the immediate one-semester bridging course, right through to completing the degree and being accepted as a professional in the chosen career.

Participants enrolled in the bridging programme because they realised that academic study was required to obtain their career goal. They were all aware that they did not have the qualifications and skills required for academic study and enrolled in the bridging programme to prepare themselves for that future study. The decision to undertake study commonly resulted from the personal encouragement of others.

The bridging programme affected the goals people had in different ways. For most participants their original goal was reinforced and self-efficacy for achieving it increased as a result of engagement with the course. Some realised the effort and time involved in reaching the original goal was not something they wished to persevere with. A small number saw possibilities which they were not aware of before. Although specific content had been a common reason for enrolling in the bridging programme, participants felt the real learning achieved was the growth in personal organisation, understanding of workload and commitment. These were not anticipated by the participants on entry to the programme.

Self-efficacy for future academic study came from participation in the bridging programme. Confidence was gained at different times throughout the educational journey. Personal experience of working with academic material positively influenced confidence and self-efficacy. Ratings of self-efficacy did not relate closely to actual entry to a future academic course. Self-efficacy increased with satisfaction with the bridging programme. Self-efficacy increased by observing others, especially fellow classmates on the course, and satisfaction increased by working with them.

The four influences on self-efficacy put forward in Bandura's (1986) social cognitive theory were borne out by the responses given by the participants during the interviews. These are an individual's personal experience; vicarious observation of known or unknown others of a similar age, stage, temperament, or experience; persuasion by others and the more significant the 'other' the greater the effect; and finally the physiological influence which relates to an individual's personal 'gut' reaction and feelings about themselves and their environment in a particular situation or task.

As hypothesised, the personal experiences of the participants played an important role. The number, variety and depth of the interview comments point to their significance. The observation of friends known before entering the course, but more importantly following the example of classmates, and the collegial support offered and received by fellow participants on the bridging programme played an important role for many.

The family, both nuclear and extended, was expected to be a major influence, and indeed was. Parents were important not only for the younger single participants, but for older and married participants as well. Spouses and partners played a key role as participants moved into later life stages. Encouragement rather than persuasion was the key manifestation of support. Physiological

reaction to situations is often one of the more difficult to observe, yet there were several comments made by interviewees which captured the ambivalence of the pending work, effort and commitment needed to gain the goal, and the excitement of the challenging opportunity ahead.

Self-efficacy for academic reading, writing and vocabulary emerged from the interview participants' own experience, by observation of and through the influence, encouragement, persuasion and support of others. Many participants were able to verbalise a specific physiological reaction to the future task.

Chapter 9. DISCUSSION

9.1 Introduction

The study has asked questions relating to the levels of academic literacy and self-efficacy among participants in a post-secondary bridging programme in preparation for future academic study. It examined the extent to which the levels of these vary according to the participants' backgrounds and the extent to which these levels influenced participants' academic outcomes. The origin of these self-efficacy beliefs of adults and the effects of them on their involvement in a bridging programme preparing them for future academic study were investigated. These research questions are now discussed and examined in the light of literature on these topics and the research findings.

The chapter begins with a brief discussion of the construction of the composite index of academic literacy (CIAL) and the composite index of self-efficacy (CISE). This is followed by a discussion of the relationships between academic literacy, self-efficacy and academic outcomes. The extent that academic literacy, self-efficacy and academic results varied according to participant background is then discussed. The chapter concludes with a discussion of the sources of self-efficacy and the changes that occurred in self-efficacy between the first semester questionnaire and the second semester interview.

As reported in Chapter 3, Zimmerman and Cleary have stated that "it is widely accepted that students' academic success is influenced primarily by their cognitive abilities" (2006, p.52) but the authors also noted that the relationship between cognitive ability and success was typically only moderate. Social cognitive theorists point strongly to self-efficacy being both the spark and the fuel for success. "Personal efficacy ... is the foundation of human motivation, well-being and accomplishments" (Bandura, 2006a, p.3). Bandura goes on to say that only when people believe they can succeed, will they act, persevere and prevail. Measurements of academic literacy and of self-efficacy were constructed in this study to observe their relationships with academic achievement.

9.2 The construction of a composite index of academic literacy (CIAL)

The theoretical perspective which places vocabulary knowledge alongside reading and writing has been outlined in Chapter 2. The purpose of discussing it again here is to confirm that the CIAL was a valid instrument for measuring academic literacy in the present study. The three components were found to relate modestly to each other suggesting not only that participants who scored well on one of the academic literacy components scored well on at least one of the others, but also that each component is of importance in the formation of the CIAL. There seemed little need for any justification for reading (Urquhart & Weir, 1998) or writing (Grabe & Kaplan, 1996) to be included in CIAL so the closer links between vocabulary and reading, and vocabulary and writing, than between reading and writing themselves added weight to the inclusion of vocabulary as a measurement of academic literacy (Nation, 2001; Read, 2000).

9.3 The construction of a composite index of self-efficacy (CISE)

The CISE was made up of the summary measures for self-efficacy for current academic literacy skills (SECALS) and self-efficacy for future performance in an academic course (SEFPAC). These, together with a third—the summary measure for self-efficacy for readiness for future academic study (SERFAS)—showed moderate to strong relationships between each other. The correlations were stronger than those between the components of the CIAL. This indicated that the questions used for establishing the self-efficacy measurements had an internal validity.

The original idea of forming two summary measures for self-efficacy for academic literacy, one for the current programme, and the second for a future planned academic course, was modified because of the results from the questionnaire. All ten items of the self-efficacy survey correlated moderately, but the Cronbach's alpha statistics showed that the measurement for SERFAS would be better considered as a separate entity. The two measures of SEFPAC and SECALS showed a strong relationship and were combined to form the CISE.

The SERFAS measure could have remained as part of the CISE, as per the original plan, as it did relate to SEFPAC and SECALS. However, it was useful to examine readiness separately, as it revealed that speakers of a first language other than English scored significantly more highly than native speakers. This would not have been seen as clearly if readiness had been subsumed into the CISE.

Interestingly, neither the high scores for SERFAS nor the significantly lower scores on the SECALS for the speakers of a first language other than English correlated with their grade score average (GSA) or their acceptance into a future academic course. In fact, none of the summary measures of self-efficacy or the CISE related to the GSA awarded in the bridging programme or the acceptance outcomes, either collectively or separated into programmes, with one minor exception mentioned below. This is in marked contrast to the expectation from the literature where studies in the 1980s and 1990s (Bouffard-Bouchard, 1990; Collins 1982) led Bandura (1997) to suggest that once academic ability was taken into account, academic performance was strongly influenced by self-efficacy beliefs (Zimmerman & Cleary, 2006, p. 53). The research data supported Zimmerman and Cleary's proposition with regard to participants with low self-efficacy (see Table 7.4), but it was not confirmed by the correlations of the self-efficacy measures to GSAs. The question of whether these correlations would be stronger when comparing them by programme levels given the differences between programme levels is discussed in Section 9.5.

9.4 Academic literacy, self-efficacy and academic results

The levels of academic literacy for the participants in this study ranged from 29% to 66%, with a mean of 49% on the CIAL consisting of standardised scores for reading, writing and vocabulary. However, the relationship between these scores and the students' academic results measured by GSAs in the bridging programme was not significant and the same applied to the relationship of the CIAL with participants' acceptance into a future academic course. With academic literacy accounting for a mere 3% of the variance in grade scores and 1% of acceptance outcome, it seemed there must be other

factors affecting academic achievement. The academic literacy skills of the participants in this study, it seemed, did not fulfil the expectation of a moderate relationship with academic outcomes.

The conceptual model underpinning the study suggested that self-efficacy was a possible answer. The levels of self-efficacy were obtained from ten questions used to construct the SECALS, SEFPAC and SERFAS measures. In each of the ten questions asked, the responses ranged from 0-3% to 100%. Thus, the variance in the scores for self-efficacy was much larger than that for academic literacy. It was more likely for participants to opt for 'Completely Sure' or 'Cannot at all' in self-efficacy ratings than to score either 0% or 100% in a test of academic literacy. Even though the means for the two composite indices were similar, the self-efficacy scores were much more widely dispersed. This was particularly noticeable in the SERFAS measure where substantially more 0% or 100% self-efficacy ratings were reported (see Figure 6.8) than the CISE (see Figure 6.9). The mode of the readiness reported was 50% but many of the ratings were clustered at 0% and at or near 100%. The difference in the standard deviations (SERFAS SD = 31.858; CISE SD = 19.622) are an additional reason for separating SERFAS as a distinct entity from the CISE.

As noted, the summary measures of SECALS and SEFPAC were combined to produce the CISE, which had a mean of 50%. The mean for SERFAS was 61%. The correlations of these three summary measures with students' GSAs, however, were even lower than those for academic literacy, and accounted for less than 1% of the variance.

Faced with these results further investigation was needed and an examination of the CIAL and CISE showed a modest relationship between them. The CIAL correlated moderately with SECALS, one of the two summary measures of the CISE. This suggested that, in many cases, participants with higher levels of academic literacy had higher levels of self-efficacy for academic literacy. Similarly, many of the participants with lower academic literacy had lower self-efficacy.

Furthermore, relationships were examined between the two measures of outcome, the GSAs awarded in the bridging course, and the acceptance of participants into a future course. The grades awarded ranged from Not Complete (NC) to A+, with a mean of C+. The grades related to the acceptance outcomes of participants and the moderate relationship established suggested that the better the grades participants received in the bridging programme, the more likely they were to be accepted into a future academic course. Twenty of the 29 participants who gained A-grades in the bridging programme gained entry to the academic course of their choice, with the destinations of the remaining nine A-grade students unknown. Higher grades also meant acceptance into their planned course sooner. Those with lower academic literacy skills were overrepresented in the group of participants who failed. Failure in the bridging programme resulted in non-acceptance into a future course in nearly all cases.

With modest links established between the CIAL and CISE, and the moderate link between GSAs and acceptance outcomes, and no links between the outcome results and the CIAL and CISE, there must have been other factors in play. These are examined in the next section.

9.5 Academic results by programme level

Since the correlations so far have been small and non-significant, further investigations were undertaken into the GSAs. Differences in the mean grade scores by programme level were consistently noted when examining for demographic and experiential differences in participants' scores. It could be expected that those with the highest level of academic literacy would receive the highest grade scores, but the reverse turned out to be true. The Level 4 programme participants had higher mean scores on all measurements of academic literacy and yet their mean grade score was a straight C, which was two grade levels lower the B- mean of the Level 2 and Level 3 participants, whose levels of academic literacy were substantially lower. The mean scores on the CIAL and for GSAs are shown in Table 9.1.

TABLE 9.1

COMPARISON OF COMPOSITE INDEX OF ACADEMIC LITERACY SCORES (CIAL) AND GRADE SCORE AVERAGE (GSA) BY PROGRAMME LEVEL

Mean Scores	Level 4	Level 3	Level 2
Composite Index of Academic Literacy (CIAL)	53.4%	48.7%	37.9%
Grade Score Average (GSA)	5.3 (C)	7.2 (B-)	7.6 (B-)

The question then is whether the higher grade scores awarded in the lower Level 2 and Level 3 programmes were being awarded on different levels of expectation from the Level 4 programme. This is not unreasonable when the nature of the programme and the purpose of the grades awarded is considered. At the lower levels, students are beginning their return to formal education. The course and their achievement-oriented assessments are designed to encourage participation and completion by rewarding students for the progress they have made at these levels. Although some students do enter directly into future academic courses from Level 3, most return to complete Level 4, in order to gain the required grades for entry to the Level 5 programmes which make up the first year of degree and diploma courses. The purpose of Level 4 grades then is to give administrators and students an indication of level of preparation for participation in Level 5 courses. The Level 4 grades offer a better reflection of students' actual academic ability when compared to the generally higher grades that were awarded in the Level 2 and 3 programmes.

This is confirmed in the differing relationships between the CIAL and each of the three programme levels—Level 2 Introduction to Foundation, Level 3 Foundation, and Level 4 Advanced Foundation. There was a moderate correlation with the Level 4 programme results, accounting for over 30% of the variance ($r_{(n=31)} = .567, p < .001$), whereas academic literacy scores correlated modestly with Level 3 grades ($r_{(n=49)} = .308, p = .031$), and not at all with the grades of the smaller number of participants in the Level 2 programme ($\rho_{(n=11)} = -.158, p = .664$).

The majority of the participants in the Level 4 programme were planning to enter an academic course in the following semester and the grade scores were more accurate for predicting future outcome at that level. A moderate relationship was found between the Level 4 GSA and acceptance to a future

course ($r_{(n=96)} = .545, p < .001$). Sixty-three per cent of Level 3 and Level 2 participants returned to the next level of the bridging programme before going on to their future tertiary course in subsequent semesters.

It could be expected that the participants who gained entry to their future course would have the highest scores for academic literacy and for self-efficacy. However there were no significant correlations between acceptance outcome and the CIAL or the three summary measures of self-efficacy. The CIAL related moderately to the GSA of the Level 4 programme participants and this GSA related moderately to acceptance outcomes, but there was no significant correlation directly between the CIAL and acceptance outcome. The CIAL and the grades assigned by the bridging programme for the other programme levels bore no relation to participants' acceptance in a future course. The only exception was that a slight relationship at a significant level was shown to exist between the Foundation GSAs and SERFAS at Level 3.

9.6 The relationship between academic literacy, self-efficacy and academic outcomes

The focus of the investigation then moved to an analysis of the actual scores of the individual participants on the CIAL and CISE. Their relationships to both GSA and acceptance outcomes were comprehensively detailed in Chapter 7. Overall, the adults in the survey had reasonably high self-efficacy measurements on the instruments used.

The crosstabulation (see Table 7.4) between the broad thirds of high, medium and low academic literacy and self-efficacy revealed that where the two measures were disparate, unexpected results appeared. For example, the fact that the group with low self-efficacy and low academic literacy scored two grade bands higher than other participants with low academic literacy was unexpected, but it was then realised that six of the nine participants were from the Level 2 programme, which had already been seen to award the highest grades of all levels. The uncovering of the significance of the programme level for these participants was important as it would be unlikely that students with both the lowest academic literacy skills and lowest self-efficacy could obtain among the highest grades, if the grade scores measured the same set of capabilities. The real cause of the result was the less stringent assessment criteria and grades awarded, and the supportive learning environment offered in this lowest level programme.

The other unexpected result – that for the group with high academic literacy levels but low self-efficacy proves the accuracy of Bandura's now famous statement: "Self-belief does not necessarily ensure success, but self-disbelief assuredly spawns failure" (1997, p. 77). In this case though, four of the five members of the lower self-efficacy/higher academic literacy group did achieve passing grades. The group collectively had the lowest mean GSA of the nine possible group combinations, even though four of the five still passed the programme. If the failing student's score was removed, the group mean of 6.9 would rise to 8.1, half a grade band above the low academic literacy group (highest mean: 7.6). However, this is still half a grade band below the medium academic literacy group (lowest mean: 8.6). At 8.1, the revised mean was still not in the Band 9 category of the other high academic literacy participants.

Caution must be exercised in reading too much into the mean scores of five participants where the stability of the mean can be overly affected by the presence of an outlier. However, other groups had similar numbers and as these matched what could be seen to be the expected pattern, the small number alone should not discount drawing attention to the low mean of the GSAs of these higher academic literacy/lower self-efficacy participants.

When participants had CISE scores which were relatively close to their CIAL scores, they had higher GSAs. This confirms that the importance of accuracy in self-efficacy beliefs outlined by Bandura for adolescents (1986, p. 393), fits equally well for adults. He goes on to warn that there can be severe consequences for students exhibiting high-efficacy/low skill, in that they tend to make relatively little progress in their studies (ibid.). This is especially true in the way that self-efficacy was measured in the study where academic literacy skills for both the current course and for future course performance could have an effect of future outcomes. Bandura (1986, p. 394) comments that high self-efficacy matched with ability tends to produce more effort in general, and greater persistence when learning becomes difficult. However if this high self-efficacy overestimates the academic ability, students “may feel little need to invest much preparatory effort” (Bandura, 1986, p. 394).

Self-efficacy estimations of academic ability under actual ability can lead to a feeling that the situation is worse than it actually is, and can lead to children and, in this study, adults, either wanting to give up, reducing the amount of effort expended because ‘it is a waste of time’, or adopting inappropriate strategies to cope. Examples of inappropriate learning strategies are slowing reading speed in order to understand every word, focusing on individual sentences not the global meaning, interrupting reading with dictionary consultation, blaming lack of comprehension on ‘being dumb at reading/English/long books’, accepting the everyday meaning of words without realising the academic meaning, and simply misunderstanding the meaning. The adoption of particular reading strategies was not part of the present study and an examination of the reading and study strategies of low efficacy adult students would be useful future research.

In this study the five participants with high academic skill and low self-efficacy did score significantly lower than those of similar ability in academic literacy skills with higher self-efficacy, but it cannot be said that they suffered severe consequences. Their progress was slowed, however, in that four of the five participants in the high skill/low-efficacy group, even though passing the programme, returned for a further bridging course. The fifth was accepted into a first-year of a National Diploma programme at Level 5. What is significant is that when participants had realistic self-efficacy beliefs of their academic ability, their grade scores were higher.

9.7 The extent that academic literacy, self-efficacy and results vary with background

Each of the seven types of background data on gender, age, ethnicity, first language, previous education level, current level in the bridging programme and planned future course were examined in relation to the CIAL, the three summary measures for self-efficacy (SECALS, SEFPAC and SERFAS), GSAs and acceptance into a planned future course. Table 9.2 shows those with statistically significant differences in the relationships between subgroups.

An interesting pattern was revealed with gender being differentiated in academic literacy, and with age group being differentiated in self-efficacy. Declining levels of self-efficacy for males, when compared to females, especially in the late teenage years and early 20s, was reported by Caprara et al. (2008) with possible reasons cited as there being more available attractive options competing for the males' attention, and the greater familial and societal restrictions placed on females. Yet in this study male self-efficacy was not significantly different from that of females, whereas male academic literacy was. Further studies are needed to investigate the reasons for lower academic literacy among male students. There was a tendency for the predominantly male group who chose careers in the information technology, science, or electrical and mechanical engineering fields to have the lowest grades in writing assessments of all the future course subcategories.

TABLE 9.2

SIGNIFICANT DIFFERENCES IN ACADEMIC LITERACY, SELF-EFFICACY, ACADEMIC RESULTS AND ACCEPTANCE BY BACKGROUND.

	Gender	Age Group	Ethnicity	First Language	Previous Education	Future Course	Current Programme
Academic literacy Writing	male LOW	ns	ns	Other than English LOW	ns	ns	L4 HIGH L3 Med. L2 LOW
Academic literacy Reading	male LOW	ns	Other Ethnicities LOW	Other than English LOW	ns	ns	L4 HIGH L3 Med. L2 LOW
Academic literacy Vocabulary	male LOW	ns	Other Ethnicities LOW	Other than English LOW	ns	ns	L4 HIGH L3 Med. L2 LOW
Composite Index of Academic literacy	male LOW	ns	Other Ethnicities LOW	Other than English LOW	ns	ns	L4 HIGH L3 Med. L2 LOW
Self-efficacy for current academic literacy skills	ns	45-65 LOW	ns	ns	ns	ns	L4 HIGH L3 Med L2 LOW
Self-efficacy for future performance in an academic course	ns	45-65 LOW	ns	ns	ns	ns	L4 HIGH L3 – L2 - LOW
Self-efficacy for readiness for future academic study	ns	ns	ns	Other than English HIGH	ns	ns	ns
Grade score averages	ns	ns	NZ European HIGH	ns	Tertiary HIGH	ns	L4 LOW L3 Med L2 HIGH
Future course acceptance	ns	ns	Other Ethnicities HIGH	ns	ns	ns	ns

ns = not significant

The data revealed that the group aged 46-65 years had significantly lower self-efficacy scores. This low self-efficacy however did not appear to hinder their success, with half the participants being admitted to the course of their choice in the following semester, and a further quarter passing the second semester in the bridging programme which had been a part of their study plans. Although it has been noted that age can induce a positive self-efficacy by imparting feelings of valuable and valued experience, the lower self-efficacy exhibited by the members of the oldest age group may be the result of perceived slower memory recall, inadequate retention, and inability to grasp new concepts (Smith & Marsiske, 1997). It may also be due to a commonly occurring realisation that the more that is learned the more that is still required to be learned.

As Table 9.2 shows, the CIAL, and the academic components of reading and vocabulary, also showed significant mean differences between those participants classified as Other Ethnicities and both the New Zealand Māori and New Zealand European ethnic groups. These differences mirror the results for all academic components for first language. The strong correlation between first language spoken and ethnicity has been confirmed and the lower performance in academic literacy measures by the bi-lingual adults in this study paralleled the well-documented differences in the time taken to become proficient in cognitive/academic language exhibited in bi-lingual children (Cummins, 1979, 2000a; Baker, 2001).

Cummins (2001) emphasised that a lack of proficiency in English in second-language situations underlines the background differences that can be present and that without this being recognised, education difficulties are all too often attributed to social, cultural, ethnicity or educational programme backgrounds. In a study of Moroccan first- and second-year university students, Mokhtari and Reichard (2004) endorsed language differences observed by Cummins as the reason for the lower achievement of second-language learners in reading and writing rather than a list of social and background issues related to ethnicity which they found promoted misunderstandings leading to perceptions of deficit.

In this study ethnic groups were differentiated by the first languages of participants. All of the participants in the New Zealand European group, and five-sixths of the New Zealand Māori group, were speakers of English as a first language, while five-sixths of the Other Ethnicities group were speakers of a first language other than English. The differences in academic literacy scores by ethnic group are better explained by the closely matched results of differences in first language.

The mean scores of speakers of a language other than English was 4% lower in writing, 7% lower in reading and 13% lower in vocabulary, than those for first language speakers of English. This finding supports that of Davidson-Toumu'a (2005) who, in examining academic reading of first-year Pasifika adults in a New Zealand university who had a first language other than English, found that "the most basic of challenges to the ESL reader is without doubt the issue of academic vocabulary" (p. 20). Cummins (2000a) offers a similar explanation in his advice to teachers and parents of second language children that an effective method of increasing academic vocabulary knowledge is to read extensively because "academic language is reliably found only in written text" (p.79). A study of

second-language university students at a New Zealand university (Loewen & Ellis, 2004, p. 24) found that those with higher vocabulary knowledge consistently gained higher grades than classmates from a similar background with lower vocabulary levels, concluding that a 90% threshold knowledge of words from the 2000 Word List and the most commonly used academic vocabulary was a minimum for degree programme participation (Loewen & Ellis, 2004, p. 22-23). The authors of that paper point to other studies where the recommended minimum is much higher, however they all concluded that vocabulary learning is an essential part of success in academic study.

Kuehn's (1996) investigation into the language-related barriers to successful post-secondary education among American (mostly Hispanic) students classified as having limited English proficiency, highlighted possible differences in the academic literacy skills between speakers of English as a first language and those for whom it was as an additional language, due to vocabulary difficulties in academic texts. She noted that "the most important barrier to comprehension of lectures and text for underprepared students is the lack of academic vocabulary knowledge" (p. 9).

All this said, despite the academic literacy scores, the speakers of a first language other than English exhibited significantly higher SERFAS scores. The survey from which the self-efficacy reports were collected took place after the first five weeks of the programme. It is possible that the programme may have had an influence on participants' self-efficacy even in that short time, but it is just as likely that these participants arrived on the course with their high self-efficacy already established. The cause of this higher perceived efficacy is unknown but a possible factor is that these speakers of a first language other than English had had personal and relatively recent success in an educational environment in their home country in their first language. This would provide a source for self-efficacy which they would bring with them to the situation they now found themselves in. Of the 113 speakers of other languages, 20 rated themselves at the 100% level for self-efficacy for readiness for a future course, compared with only five from the 99 native speakers of English.

A combination of existing self-efficacy built on by participation in the bridging programme is perhaps the most likely scenario. A clue to this was given by the speakers of a first language other than English who were interviewed. The second interviews took place in the semester following the bridging programme, yet even at the first interview five weeks into the first semester, participants commented on changes in self-efficacy that they had experienced since the beginning of the programme. Even the relatively few intervening weeks was enough time for what was experienced in the bridging programme to have had an effect on participants. It may well have been that this short amount of time had shown that their academic literacy skills from their first language were transferable to the English-medium situation. Speakers of a first language other than English who were interviewed commented on several issues which may have helped create positive self-efficacy:

- the participation and communication with others in an English-medium academic environment;
- the opportunity to experience a multicultural environment;
- the learning which occurred by operating in an English-speaking, New Zealand academic environment;
- the learning of academic literacy skills which were not known before;
- the academic environment which encouraged participants to make changes to work-ethic,

- social priorities, and home study habits;
- the current confidence about the future work required once the initial shock of the amount of work needed had faded;
- the friendly teachers and their availability to help students;
- the pride in receiving passing grades in the bridging programme, eventually passing the programme, and being accepted into the planned future course.

Participants classified as Other Ethnicities were significantly more successful in being accepted into academic courses when compared with both the New Zealand Māori and Pasifika groups. Over 90% of the Other Ethnicities group were speakers of a first Language other than English. The high SERFAS scores of the second-language speakers may possibly have been a contributing factor to the high acceptance rate of those of the Other Ethnicities group. Participants who spoke a first language other than English reported they felt significantly more ready for the future course of their choice than native speakers of English did. The fact that many in the Other Ethnicities group had attended secondary school to the upper level and were the only ones who had completed tertiary qualifications were possible additional reasons. The significantly higher SEFPAC exhibited by the participants who had previous upper secondary experience points to successful previous personal experience playing a role in increasing self-efficacy. Participants with previous upper secondary educational and tertiary experience had GSAs higher than other sub-groups.

It is at the upper level of secondary school where academic writing would likely have been introduced. Significantly more participants with secondary school experience had their writing rated at level 4, the highest level in this study. All of the small group who already had tertiary qualifications were accepted into further academic courses and they had the highest mean of the GSAs for all subgroups in the previous education category. All these tertiary graduates were speakers of a first language other than English and had completed their degree overseas in that language. Caution is needed in the interpretation of the statistics around this subgroup because of the small numbers. The sources of self-efficacy are discussed in greater detail in Section 9.9, but they are mentioned here because it is successful previous personal experience which Bandura (1986, p. 399) credits as the most influential factor in forming and promoting positive self-efficacy.

Planned future course choice and related career showed no significant differences in self-efficacy, academic literacy or outcome. The distribution of GSAs by programme level could be expected to fit a similar pattern of distribution for each of the programmes for participants with high, medium and low self-efficacy. They did not however, and the differences in programme GSAs have been discussed in Section 9.3.

The levels of confidence for readiness (SERFAS) were expressed similarly by participants across each programme level. That is, participants in the Level 2 programme expressed readiness for future academic study across a similar range to the Level 3 programme participants, and the Level 4 programme participants.

These self-efficacy beliefs for readiness (SERFAS) held by participants correlated moderately with the

other two self-efficacy measures (SECALS and SEFPAC), but there was no explanation why they should be distributed differently from these other measures. Perhaps the accuracy of the SERFAS was greater than that of the SECALS and SEFPAC. This explanation however would undermine the close links shown between the CIAL and one of these measures, SECALS.

9.8 Links between interviews and questionnaire data

The comparison of five items of the self-efficacy survey data from the first semester with the interview data from the second semester revealed that 40% of participants showed an increase in self-efficacy. The greatest increases were noted in participants with the lowest scores. Admittedly, participants who had low or medium self-efficacy in the first survey had more room to improve and so a better opportunity to increase their score. The interview responses confirmed that participants felt that their self-efficacy had increased by participation in the bridging programme. Section 8.2.5 recorded specific reports by interviewees of self-efficacy being improved by the bridging programme. The improvement in academic skills, motivation, personal application, and knowledge of specific content all contributed to confidence, which encouraged greater participation.

A similar proportion (38%) showed little change in self-efficacy ratings. These were, however, predominantly from the participants with the highest initial self-efficacy. Most of this group responded positively when asked to comment on the effects of the bridging programme and any gains they had made because of it.

The self-efficacy for 22% of the participants decreased. Possible reasons for this drop in self-efficacy related to:

- the impending closeness of the test or interview needed for selection;
- the awareness that the planned future course might be more difficult than had previously been thought;
- the length of time involved even before entry to the actual course and the difficulty in staying committed to the goal;
- the realisation that basic academic literacy skills were lacking.

9.9 Sources of self-efficacy

The social cognitive theory put forward by Bandura (1977, 1984) identifies four sources for self-efficacy beliefs: personal achievement, vicarious observation, persuasion, and physiological experience. The interview responses confirmed the importance of these four factors.

As hypothesised by Bandura (1986, p. 399), participants' personal experiences of the bridging programme were reported as giving them more confidence in achieving their academic goals. Although specific content had been a common reason for many enrolling in the bridging programme, participants felt the real learning from the programme was in the growth in personal organisation, understanding of workload, and commitment. These were not anticipated by the participants on entry to the programme.

The vicarious observation of friends, especially those new ones gained on the course, appeared to encourage self-efficacy. Seeing fellow classmates achieving passing grades in assignments and knowing that previously enrolled course members had passed, encouraged students. On the other hand, observing classmates as competent as themselves, and acquaintances from previous semesters who had failed, can undermine self-efficacy and the effort which will be put in.

The family, both nuclear and extended, was a major influence as expected. Encouragement rather than persuasion was reported. Bandura (1986, p. 400) comments that persuasion works best when the goals encouraged are realistic. None of the comments from the participants in the follow-up interviews mentioned that their self-efficacy had been raised for goals which were unattainable. Even those who felt they had not been successful in the previous semester's course gave the cause as their own lack of commitment or skill, not the overzealous persuasion of others.

The fourth source of self-efficacy beliefs relates to the physiological state, which manifests itself in two ways: fear, fatigue, aches and complaints such as upset stomachs stemming from anxiety; and in excitement, positive anticipation, and the 'butterflies' in the stomach often experienced before a public performance or important occasion. Many more comments from participants expressed the latter reaction rather than the former. Bandura (1986, p. 401) advises that self-efficacy can be raised and negative reactions lessened by recognising the possible existence of both, and for instructors and parents to discourage a negative emotional contagion to spread among their students/offspring. An understanding of pending work, effort and commitment needed is important but maintaining a focus on the goal, and the exciting challenge it presents will help provide a balance. Several interviewees commented feeling both emotions.

Lecturers in the bridging programme are in a position to foster and nurture self-efficacy. Participants in the interviews endorsed the idea that this was already happening in many cases. Time pressures on lecturers to complete the curriculum may mean that a focus on self-efficacy building may be neglected, passed over or relegated to a position where insufficient time was being allocated to it. Staples, Hulland and Higgins' (1998) study outlined in Chapter 2 stress the building in of time into the programme to allow the use of meta-cognitive strategies to build self-efficacy. They found that thinking about the learning behaviour was a positive step especially in an environment which was new or unfamiliar. Also in Chapter 2, Blakey and Spence (1990, pp.1-2) list useful strategies for lecturers to supply effective feedback to students. The importance of developing accurate self-efficacy beliefs is outlined by Bandura (1986, p. 393), and in their reading development programme for post-secondary American students, Camillo and Pool (1999) provided a useful insight into strategies which could be used in a classroom setting.

9. 10 Summary

In this chapter the CIAL and CISE have been confirmed as useful measurements and were used to compare academic literacy and self-efficacy of participants with their academic results. The understanding of the differences in GSAs for each of the three programmes greatly assisted in providing meaningful comparisons after correlations of the full datasets had proved insignificant.

The lower CIAL scores of males, those classified as belonging to Other Ethnicities, speakers of a first language other than English, and the lower CISE of the 45-65 age group, stood out from the other subgroups. In contrast, those who attended the upper years of secondary school demonstrating high self-efficacy for future course performance, has also been noted.

Higher grade scores were achieved by the New Zealand European ethnicity group and those who already had a tertiary degree, even when it had been obtained overseas in a language other than English. An interesting phenomenon was that despite obtaining the lowest CIAL results speakers of a language other than English had the highest self-efficacy for readiness for a future academic course, and those classified as Other Ethnicities had the highest acceptance rate into future academic courses. The conclusions which can be drawn from these findings and their implications are presented in the next and final chapter.

Chapter 10. CONCLUSIONS AND RECOMMENDATIONS

10.1 Aim

The aim of this study was to explore the extent to which levels of academic literacy and self-efficacy might be related, and to investigate their possible relationship to the academic results of adult students enrolled in a bridging programme in preparation for future academic study. The bridging programme results were also examined in relation to participants' consequent success in gaining entry into the academic course of their choice. The demographic composition and experiences of the participants were established to investigate the extent to which the background of the participants might affect academic literacy, self-efficacy, academic results or course acceptance.

10.2 Conclusions

Chapter 9 examined the findings from the study in relation to the five research questions, which were developed after a review of the existing literature. These covered eight areas, and conclusions drawn from these have been detailed here.

The moderate correlation between the composite index of academic literacy (CIAL) and the academic results confirmed that higher levels of academic reading, writing and vocabulary skills were associated with higher grade results. The inclusion of vocabulary alongside reading and writing produced a more robust measure of academic literacy. The correlations between the three components and the comments from interview participants suggest that vocabulary be strongly recommended as a measure of academic literacy together with reading and writing.

The Cronbach's alpha statistics confirmed that the items used in the self-efficacy survey were appropriate for the task. Although the measurement of self-efficacy for readiness for a future course (SERFAS) correlated with self-efficacy for future performance in an academic course (SEFPAC), self-efficacy for readiness was spread more widely, ranging from zero (Not at all ready) to 100% (Completely Ready). This suggests that SERFAS should be seen as a separate construct and as such additional survey items should be included to provide a more reliable measure of this construct.

The moderate relationship of academic literacy scores with grade scores confirmed the importance of reading, writing and vocabulary skills in academic success. That this occurred only for the Level 4 participants is discussed below. Two observations regarding academic literacy and self-efficacy are worthy of mention. First, given the literature from the social constructivist perspective outlined and reviewed in Chapter 2, it should be no surprise that lower self-efficacy leads to lower academic performance. What was different in the present study was that it was the group of participants who had high academic literacy and low self-efficacy who were the most affected. The second observation is that the group of participants who had self-efficacy scores for academic literacy close to their actual academic literacy scores received higher grade scores in their courses than those whose index scores were more divergent, with the greatest difference of over two grade bands found among those with high self-efficacy and low academic ability. This finding suggested that accuracy in judgements of self-efficacy was also relevant in understanding the factors that can influence academic performance.

This study confirmed the literature findings in that higher self-efficacy generally leads to greater academic success, but high self-efficacy beliefs can be problematic when they are not accurately founded. In this study academic results matched academic literacy measurements except for those participants with high academic literacy but low self-efficacy. The mean of the grade score averages (GSAs) of these participants was lower than those for any of the other eight groupings.

The need for self-efficacy beliefs to match ability is important in academic study. When high academic literacy skills are associated with high self-efficacy, grade scores are correspondingly high. All of the positive aspects of high self-efficacy such as self-initiated effort, perseverance, and self-directed motivation appear to augment inherent ability, most commonly acquired from previous personal success. This would seem to be true for participants in this study as well, especially for those who had recently arrived from overseas where they had achieved academic success in their own educational environment and in their first language. For the second-chance learners with a lack of recent educational success or those a long time away from any formal education, the bridging programme is likely to be the primary source of information upon which to base self-efficacy beliefs. For that reason, supportive but accurate feedback must come from the lecturers teaching on the programme with the use of strategies such as those outlined in Chapter 2.

Academic literacy and self-efficacy varied by the demographic and experiential backgrounds of the participants. The groups with low levels of academic literacy were different from those with low levels of self-efficacy. In particular, speakers of a first language other than English scored significantly lower in the academic assessments, but yet had the highest self-efficacy for readiness for future academic study. As suggested, previous and often recent success in the educational environment of their own country and in their own language may have engendered high self-efficacy beliefs which returned high grade scores in the bridging programme, once language issues were worked on. Many of the speakers of a first language other than English were classified as belonging to the Other Ethnicities group which had the highest proportion of acceptance into future academic programmes.

The consistent significant differences in the programme-level grade scores suggested that care was needed to be taken when comparing data between programme levels. It would seem that measurements of attainment in a particular academic level were best compared within that academic level. Working with measurements beyond one level may involve external factors which can create distortions in cross-level comparisons. Some of the differences observed in this study—particularly in the higher grade scores awarded to the lower programmes—may have been due to the particular levels investigated. Levels 1 to 3 of the National Qualifications Framework are considered the 'Foundation' levels in which gaining academic literacy and the other foundation skills of numeracy and digital competence are the focus. The assessments, and consequently the grades awarded, reflect participation and the development of skills at that level. In programmes at Level 5 and above the assessment is more focused on the display of content knowledge, and assume that the required academic literacy skills have already been acquired by the student. This means the Level 4 courses are a transition stage, taking in many students returning to, or new to, an adult academic environment and providing the proof of readiness for participation in higher level programmes. In this study, the

participants in the Level 4 programme received grades that more accurately reflected their academic literacy than the grades given in the Level 2 or 3 programmes.

The existing social constructivist literature has mostly focused on studies of adolescents or of school leavers moving from secondary school to employment. Many of the findings of these studies are pertinent to adults in a post-secondary setting. In particular, the sources of self-efficacy outlined in detail in the literature are well supported by comments from participants in the face-to-face interviews. The role of personal experience, vicarious observation, social persuasion and physiological states in the establishment, maintenance, and alteration of self-efficacy beliefs established by Bandura (1977, 1986, 1994, 1997) were confirmed by the participants in this study. The comparison of data from the survey and the interview responses showed that participants felt that the bridging programme had a positive influence on their self-efficacy for academic study. The insights offered in the literature have a general application for people learning in this post-secondary situation.

10.3 Strengths and limitations

A strength of this study was the adoption of a mixed-methods approach. A large part of the work was quantitative in nature and was necessary to establish statistically the links between academic literacy and self-efficacy, and academic results. The open-ended interviews enabled a more in-depth understanding of what was established by the quantitative data and provided insights into the reasons behind the participants' actions. Greater use of face-to-face interviews would have delivered more in-depth data, but time was a constraint. Perhaps case studies with further follow-up interviews with participants who completed their academic courses would have added to the understandings gained. Further research could be carried out in the future based on the background, academic literacy and self-efficacy data collected to date.

Although there were gaps in the data where participants completed some but not all of the instruments, very little of the data collected needed to be discarded. The participants showed that they understood what they were required to do and they appeared to complete the instruments responsibly. With the data collected in a class situation where the content of the lesson relied on the lecturer, it was difficult at times to interrupt the teaching for what was seen by some lecturers as an extraneous activity. The use of class time meant that overall, more students agreed to participate in the study and a spread of participants from the three programme levels was achieved. If the data collection had been outside of class-time there would most likely have been fewer participants, with a consequent reduction in the comprehensiveness of the data obtained.

There is a large amount of literature on both learning and self-efficacy. Although the vast majority of the studies focus on children and adolescents rather than the target group for this study, it has been shown to be relevant and generalisable to adults learning in a post-secondary setting. An increasing number of studies on academic literacy have examined university-based students, some in their first year, however these students had already gained entry to their planned course. A strength of the study is that it lies between the secondary and the tertiary educational environments.

The generalisability of the data is limited by the fact that this study was confined to one institution. However, the focus on a single institution could also be a strength. The institution provided the largest bridging programme in the country and was situated in the largest, most culturally diverse city, meaning data were collected from a large number of participants from a wide range of demographic and experiential backgrounds. Access to participants' course results and the opportunity to track future enrolments within the institution were particular strengths. Research with bridging programme students at other sites in the future would be a valuable addition to the work done here.

A further limitation—and frustration—was the inability to contact the participants who left without a known destination. The participants who failed may have provided a different perspective on the bridging experience. It is also possible that their self-efficacy beliefs for their current academic literacy skills and for future study were different from those participants in the report. It would have been interesting to discover the factors that led to their non-completion and the reasons for their lack of persistence in their learning, if that were the case. For those with unknown future destinations who passed, their views and perspectives would have added valid data to the participants with known destinations. The possibility that the passing students with unknown destinations may have continued their studies in different institutions would have expanded the scope of this study.

The strength gained by having suitable measures available to assess the academic literacy of adults in New Zealand was not matched by similar instruments in self-efficacy. A study specifically devoted to investigating, testing and establishing reliable self-efficacy measurements for adults in a New Zealand educational environment is overdue. It was a limitation of this study that by combining academic literacy with self-efficacy there was not enough attention paid to the substantial amounts of literature on self-efficacy scales, mostly in the North American context, which could have been investigated for use or modification in the New Zealand context.

10.4 Contribution to knowledge and implications for teaching and learning

The study confirms the place of academic literacy skills in success for adults studying at the post-secondary level. The patterns of self-efficacy identified in the social cognitive literature as important in adolescents and children are shown to apply to adults as well. Self-efficacy for academic literacy skills is shown to be a positive factor in success when it matches actual academic literacy. The greatest effect, a negative one, on academic results, was seen on adult students with high academic ability and low self-efficacy. The measurements developed at a national level in New Zealand were shown to be useful but a suitable, perhaps separate, test of vocabulary size would be a positive addition. The need for further work on measurements for self-efficacy was identified.

There are three specific but related implications of the study's findings that are relevant to lecturers, planners, researchers and the students themselves.

The first of these is that a moderate link between academic literacy and programme results was established for this group of adult participants. In general, higher academic literacy leads to better academic results. This trend however was affected by levels of self-efficacy. Students who had scored

well on academic literacy received lower grade score averages than similarly rated peers if they had low self-efficacy. The effect of lower self-efficacy on academic results had been hypothesised in the literature and shown in a number of studies with adolescents. The present study showed that it also occurred in adults with low self-efficacy from a wide range of demographic and experiential backgrounds. Some studies on this phenomenon have linked it particularly to students with low academic levels; however the present study showed that the most academically able participants were those most affected by low self-efficacy. This understanding has particular significance for lecturers and instructors because it is they who often have the greatest ability to affect self-efficacy for many of the students in bridging courses. Studies by Staples, Hulland and Higgins (1998), Blakey and Spence (1990), and Camillo and Pool (1999) discuss the importance of making time for self-efficacy development in a learning programme. They offer strategies not only to improve the personal self-efficacy beliefs of the students but also to bring the beliefs closer to the actual ability to perform the tasks the self-efficacy measurements are referring to.

When self-efficacy closely reflected academic literacy, students received grade scores higher than when others, at the same academic level, had self-efficacy measures markedly different. This occurred when academic literacy was both lower, but more especially higher, than their self-efficacy. The importance of accurate feedback on these skills in the bridging programme was noted as an important understanding for lecturers and instructors. Participants in the interviews commented that their learning and self-efficacy for achieving an academic task were helped when, in the assignments and tests in the bridging programme, lecturers noted what was done correctly, and explained how to improve what was not done correctly. Specific feedback from lecturers of the bridging programme was a significant source upon which self-efficacy for academic skills was based.

With low self-efficacy and ill-founded high self-efficacy affecting academic results, lecturers at the post-secondary level need to specifically consider self-efficacy as a factor in learning. Blakey and Spence's (1990) meta-cognitive strategies for encouraging positive self-efficacy (see Chapter 2) may be useful to include in lessons at this level. In addition, Camillo and Pool's (1999) intervention programme lists successful intervention strategies in writing instruction. These studies point to the importance of lecturers providing scaffolding support in the early stages of learning new or difficult academic tasks, and specific, in-depth, individual and class feedback to students during the teaching of these academic skills. Lecturers also need to include checks in their programme to ensure that the students' perceptions of academic ability are consistent with their actual academic skills. To do this, accurate measurements of both academic literacy and self-efficacy are needed as part of the ongoing programme. The CIAL and the recently developed national assessments may prove useful, and a reworked CISE might be a starting point. Time needs to be allocated within the programme to counsel and support students in their self-efficacy judgements.

A second implication relates to the grading and assessment practices at the lower levels of the National Qualifications Framework (NQF). In the past, percentage marks and then letter grade scores were used as feedback for the results of learning. For some time now, courses covering foundation skills at Levels 1 to 3 of the NQF have assessed literacy, numeracy and digital capability on a Competent/Not-Yet-Competent criterion-referenced basis, rather than a grade score. In this study,

some of the courses in the Level 2 Introduction to Foundation programme were assessed on this basis, with encouragement given by way of lecturer feedback rather than a grade score. In other courses, however, the use of merit passes and grade scores continued to be used as a means of encouragement, in an effort to raise the self-efficacy of these beginning learners. In this study, this resulted in grades awarded in the lower programme levels being significantly higher than those for courses in the higher level programme. If grades were to be awarded, the criteria against which assessments and grading were being made, should be clearly stated. Although the criteria for merit passes can be problematic, assessment of competency appears to be a useful practice for Foundation level courses. In the intervening semesters since this data were collected, the institution which hosted the study has made significant changes to the types of assignments and assessment procedures in the Level 2 and 3 programmes.

Assessments in the higher level courses are more likely to relate to content acquisition than academic literacy, numeracy or digital skills, and consequently comparisons of grade scores at different level levels can be problematic, especially between foundation competency level courses and diploma or degree courses. The types of knowledge being assessed in the two course levels are different, and they often need to be assessed by different means.

A third implication stems from the finding that students whose first language was not English often had higher self-efficacy for their own academic literacy skills than was demonstrated in academic assessments. Higher self-efficacy may have resulted from the recent success of these participants in their home educational environment and first language. Another possibility is that the large difference between self-efficacy and academic literacy scores may be due not to self-efficacy scores being high, but academic literacy scores being low. Where these participants were second-language students performing not as highly as native-speaker participants on academic literacy assessments, the difference may be due to language knowledge and not academic literacy knowledge. As the language capability of these students improves through participation in the course and their determination to succeed, the existing academic literacy skills, previously masked by poor assessment results in English, come to the fore.

Participants classified as belonging to the Other Ethnicities group, nearly all of whom had a first language other than English, had significantly higher acceptance rates into the future academic course than other groups. Their higher rates of acceptance may have resulted from the second-language students among the Other Ethnicity group having higher self-efficacy. Theoretically, this in turn may have led to greater commitment to assignment work and assessments in the bridging programme, and perseverance through the difficult situation of learning in a second language which in turn led to greater acceptance in the future course of their choice.

10.5 Future directions

Further research on bridging programmes in other institutions is needed to determine the extent that the findings from this study can be generalised. Case follow-ups of participants who successfully completed their academic programme, and who have entered their profession of choice, would be an interesting conclusion to the accounts of their journeys.

The source of the higher self-efficacy ratings for readiness shown by speakers of a first language other than English needs further investigation, especially when this group had the lowest measurements on the academic literacy instruments, and some of the higher levels of success in gaining acceptance into future academic courses.

Analysis of the relationship between self-efficacy and the effective use of reading and study strategies could enhance the outcomes of participants in bridging and foundation level programmes.

While a significant body of research data has established the importance of self-efficacy, more studies are needed to investigate its role in influencing academic outcomes. This study confirmed the findings in the literature that academic literacy was related to outcome but only to a moderate degree. Self-efficacy was shown to be present in that its sources were identified and a modest relationship was shown between it and academic literacy, but as self-efficacy was not shown to relate to academic results, even at the level with the most accurate grade scores, further investigation is required.

Social constructivist research which began with the work of Albert Bandura (1977) and which has continued into this millennium sustained by diverse and prolific researchers has a strong focus on adolescent self-efficacy, self-regulation, and motivation. Although there has been a long-standing call for more research into the role of self-efficacy in academic achievement and in the adult education context (Schunk, 1989) this is still an area needing development. A possible extension to the present study could be the role of teacher feedback to students and how this affects self-efficacy and consequent academic results. The confirmation that reduced self-efficacy lowers the academic outcomes of adult students with high academic literacy provides a useful starting point for further research.

APPENDIX A: SURVEY QUESTIONNAIRE

PERSONAL INFORMATION

1. Name
2. Date of Birth
3. Male / Female
4. What country were you born in?
5. If you were not born in New Zealand, how old were you when you came to New Zealand?

STUDY or TRAINING AFTER HIGH SCHOOL

6. How many years of full-time education have you had after finishing high school?
7. What country / countries was that in?
8. What were you studying for?
9. What sort of institution did you study at? A university / technical college / private school?
10. What year was that? How many years were you there?
11. Did you pass any educational qualifications there, since you left high school?

LANGUAGE

12. What language did you first speak as a child?
13. How old were you when you started speaking English?
14. What country were you in when you started speaking English?

FUTURE GOALS

15. What course are you enrolled in now?
16. What course are you hoping to enter when you finish this programme?
17. What is your goal for your future career?
18. How long ago did you decide this was your goal?

Look at the chart below and for each question think about the question right now, and write down how sure you are that you can do it.

0%	20%	40%	60%	80%	100%
Cannot at all	Not very sure	Maybe I can	Fairly sure I can	Pretty sure I can	Completely sure I can

PRACTICE

How many chairs are you sure you can lift, over your head, at one time, right now?

0. Physical Strength Your Confidence of doing it [0 – 100%]

- Able to lift one chair over your head
- Able to lift two chairs together over your head
- Able to lift three chairs together over your head
- Able to lift five chairs together over your head
- Able to lift ten chairs together over your head

1. Reading in English

Right now, I am sure I can read academic books and articles in my current course and understand

- 10% of it
- 30% of it
- about half of it
- 70% of it
- 90% of it
- all of it

2. Vocabulary in English

Right now, I am sure I can understand the words used in academic books and articles for my course every time I read them

- 10% of the words
- 30% of the words
- about half of the words
- 70% of the words
- 90% of the words
- every word

3. Reading quickly in English

Right now, I am sure I can read academic articles quickly enough in a course test and understand

- 10% of it
- 30% of it
- about half of it
- 70% of it
- 90% of it
- all of it

4. Writing in English

Right now, I am sure I can write an essay in English for my current course

- I could write one paragraph
- about half of an essay
- most of an essay
- all of an essay

5. Spelling in English

Right now, I am sure that I can spell the words I write for my current course

- about 10% of them
- about half of them
- most of them
- all of them

6. Writing in English

Right now, I am sure I can produce written work in English as required for a future course I hope to enrol in

- Some of the time
- about half of the time
- most of the time
- all of the time

7. Bridging Programme Course work

I believe I am achieving the work in this bridging programme

- with at least a D grade
- with at least a C grade
- with at least a B grade
- with at least a B+ grade
- with at least an A grade
- with at least a A+ grade

8. Entering my Future Course

Right now I believe I can be selected for the mainstream course I want to get in to

I am this sure%.

9. Ready for my Future Course

Right now I believe I am READY for the mainstream course I want to get in to

I am this sure%.

10. Working in my Future Course

Right now, I am confident that in the mainstream course I want to get in to, I can do

- a little bit of it
- less than half of it
- about half of it
- most of it
- all of it
- all of it with a B grade
- all of it with an A grade

Thank you for completing this questionnaire.

The aim of this research is to find out more about students who are hoping to go on to further study. The things you say are very important in helping make this programme the most helpful it can be.

APPENDIX B: INTERVIEW QUESTION SCHEDULE – First Interview

A. Thank you for participating – Collect Consent Form.

B. Rapport Building – confirmation of details

I would like to begin by asking you some questions about your plans for the future. Is that OK?

1. SUCCESS

1 What do you think 'success' for 2009, is for you?

2. ASPIRATION

2 What course do you hope to do in the future?

3 Did you apply for that mainstream course before coming to this bridging course?

4 What do you think was the main reason you didn't get in to that course?

5 Is there any other reason as well?

6 Did some-one suggest to you that you enrol for this course?

7 If you could choose any job at all, what job would you really like to do?

3. The BRIDGING PROGRAMME

8 Are there any particular skills or knowledge that you are hoping to learn on this course?

9 What is the most important thing that you need to learn on this course, to prepare you for your mainstream course?

10 How ready do you think you are for academic study, right now? Can you tell me more about this? When did you begin to feel like this – before the course? when you enrolled? during the course?

11 Can you think of any things that you have done which has helped, or things you think you will do on this course that will help, you get ready for a mainstream course?

4. ACADEMIC LANGUAGE

12 Is English your first language? On a scale of 1 – 10 how would you rate your English level?

13 Tell me about your experience and ability of reading academic articles and textbooks.

14 How would you rate your academic vocabulary?

15 How confident are you when you are asked to write academic essays and reports?

5. ACCEPTANCE INTO FUTURE COURSE

16 How confident are you that you will be accepted for your mainstream course in July?

How ready are you for this course?

6. SOURCES OF CONFIDENCE

17 Have you been on any other courses since you've left school?

18 Has any member of your family gone to university, or polytech, or trade course? Did that make a difference about deciding to do this course? ... or your mainstream course?

19 Have any of your friends done courses like this? ... or the course you hope to do? Did that make a difference about deciding to do this course? ... or your mainstream course?

20 Did any-one encourage you to take this? ... or your mainstream course?

21 Is there any-one who supports you to complete this course and go on to further study?

22 Do you feel anxious or worried when you think about your future course?

23 Do you feel confident about being in your future course? Has this changed in any way since you have been on this bridging course? How about confidence in yourself and what you can do?

Thank you – That is the end of the interview. I appreciate your time and your answers.

APPENDIX C: INTERVIEW QUESTION SCHEDULE – Second Interview

1. GREETING - Thank you for seeing me again.
2. CONTACT DETAILS - Confirmation
3. COURSE RESULTS, FUTURE PLAN and SUCCESS
 - 3.1 Do you remember what your grades were for the bridging programme last semester? Which ones do you remember? Any others?
 - 3.2 You plan for the future last time we talked were Have your plans changed at all?
 - 3.3 What is the next step in your plan now? Have you applied for / been accepted for the course yet? Are you waiting the hear?
 - 3.4 Does getting accepted depend on anything?
 - 3.5 Do you feel you were successful last semester? What is success for you now?
 - 3.6 If you didn't get in, what do you think would be the reason?
4. CURRENT COURSE
 - 4.1 What courses are you doing in your programme now?
 - 4.2 What skills and knowledge are you hoping you will learn this semester? Any others?
 - 4.3 When you think back to last semester, what was the most important thing that you learned?
 - 4.4 Can you think of actual activities, actual things that you did, on the course last semester that helped you get ready for your future course?

5. SELF-EFFICACY for the CURRENT PROGRAMME

Have a look at this diagram. You might remember it from last time.

0%	20%	40%	60%	80%	100%
Cannot at all	Not very sure	Maybe I can	Fairly sure I can	Pretty sure I can	Completely sure I can

- 5.1 Thinking about (your future course) right back at the beginning of last semester, where do you think you were then, at the start?
 - 5.2 And right now, about your future course, where do you think you are?
 - 5.3 And at the end of this semester, at the end of the year, where will you be by then.
6. MAINSTREAM COURSE (For those now in an academic programme)
 - 6.1 What course are you enrolled in now
 - 6.2 How do the first weeks of this programme compare to what you thought it would be like?
 - 6.3 What things are you doing now that you were prepared for in the bridging programme?
 - 6.4 Do you think you are going to pass this course at the end of the semester?

7. SELF-EFFICACY for FUTURE COURSE PARTICIPATION

Thinking about (your future course / this academic course)

- 7.1 How sure are you that you can complete

a little bit of it	.....
less than half of it	.....
about half of it	.....
most of it	.....
all of it	.....
all of it with a B grade	.....
all of it with an A grade	.....
- 7.2 How sure are you that you can read an academic textbook in your course and understand

10% of it	.....
30% of it	.....
about half of it	.....
70% of it	.....
90% of it	.....
all of it	.....

- 7.3 How sure are you that you can understand the words used in academic textbooks and articles every time you read them:
- 10% of the words
 - 30% of the words
 - about half of the words
 - 70% of the words
 - 90% of the words
 - every word
- 7.4 How sure are you that you can read an academic article quickly enough and understand
- 10% of it
 - 30% of it
 - about half of it
 - 70% of it
 - 90% of it
 - all of it
- 7.5 that right now, how confident are you that you can write an essay for my academic course
- I could write one paragraph
 - about half of an essay
 - most of an essay
 - all of an essay
- 7.6 that right now, how confident are you that of the words you write, you can spell about
- about 10% of them
 - about half of them
 - most of them
 - all of them

8. REFLECTION ON THE BRIDGING PROGRAMME

- 8.1 When you think back on the bridging programme last semester, is there anything that, honestly, was a waste of time?
- 8.2 Before you came on the bridging programme was there anything that you were hoping to learn, but they didn't teach you that?
- 8.3 If a friend was thinking of doing the bridging programme what would you say to them about it?

Thank you. That is the end of the interview. I appreciate you talking to me.

References

- [named] Institute of Technology. (2009). *Annual Report: School of Foundation Studies*. [named city], New Zealand: unpublished.
- [named] Institute of Technology. (2010). *Annual Report*. Available online at [http://w3.\[named institute\].ac.nz/ebooks/Annual Report/index.html](http://w3.[named institute].ac.nz/ebooks/Annual Report/index.html)
- Abu-Bader, S. (2006). *Using statistical methods in social work practice: A complete SPSS guide*. Chicago, IL: Lyceum Books.
- Acton, C., Millar, R., Fullerton, D., & Maltby, J. (2009). *SPSS statistics for social scientists* (2nd ed.). Basingstoke, England: Palgrave MacMillan.
- Alderson, C., Clapham, C., & Wall, D. (1995). *Language test construction and evaluation*. Cambridge, England: Cambridge University Press.
- Anae, M., Coxon, E., Mara, D., Wendt-Samu, T., & Finau, C. (2001). *Pacific education research guidelines: Final report*. Wellington, New Zealand: Ministry of Education.
- Babbie, E. (2001). *The practice of social research* (9th ed.). Belmont, CA,: Wadsworth/Thomson Learning.
- Bachman, L. (1990). *Fundamental considerations in language testing*. New York, NY: Oxford University Press.
- Bachman, L., & Kunnan, A. (2005). *Statistical analyses for language assessment: workbook and CD-ROM*. Cambridge, England: Cambridge University Press.
- Baker, C. (Ed.). (2001). *Foundations of bilingual education and bilingualism*. Clevedon, England: Multilingual Matters.
- Baltes, P. (1987). Theoretical propositions of life-span developmental psychology: On the dynamics between growth and decline. *Developmental Psychology*, 23(5), 611-626.
- Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioural change. *Psychological Review*, 84(2), 191-215.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hill.
- Bandura, A. (1994). Self-efficacy. In V. Ramachaudran (Ed.), *Encyclopedia of human behavior* (Vol. 4, pp. 71-81). New York, NY: Academic Press.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York, NY: Freeman.

- Bandura, A. (2006a). Adolescent development from an agentic perspective. In F. Pajares, & T. Urdan (Eds.), *Self-efficacy beliefs of adolescents* (pp. 1-43). Greenwich, CT: Information Age.
- Bandura, A. (2006b). Guide for constructing self-efficacy scales. In F. Pajares, & T. Urdan (Eds.), *Self-efficacy beliefs of adolescents* (pp. 307-337). Greenwich, CT: Information Age.
- Bauer, L., & Nation, I. (1993). Word families. *International Journal of Lexicography*, 6, 253-279.
- Beglar, D. (2010). A Rasch-based validation of the Vocabulary Size Test. *Language Testing*, 27(1), 101-118.
- Benseman, J. (1996). Participation in the fourth sector. Chapter 18 in J. Benseman, B. Findsen, & M. Scott (Eds.). *The fourth sector: Adult and community education in Aotearoa/New Zealand* (pp. 274-284). Palmerston North, New Zealand: Dunmore Press.
- Benseman, J., & Russ, L. (2003). Mapping the territory: A national survey of bridging education. *New Zealand Journal of Adult Learning*, 31(1), 43-62.
- Benseman, J., & Sutton, A. (Eds.). (2008). *Facing the challenge: Foundation learning for adults in Aotearoa New Zealand*. Wellington, New Zealand: Dunmore Publishers.
- Biber, D., Johansson, S., Leech, G., Conrad, S., & Finegan, E. (1999). *Longman grammar of spoken and written English*. Harlow, England: Pearson Education.
- Blanton, L. (1998). Discourse, artefacts and the Ozarks: Understanding academic literacy. In V. Zamel, & R. Spack, *Negotiating academic literacies: Teaching and learning across languages and culture*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Blakey, E., & Spence, S. (1990). Developing Metacognition. *ERIC*, 1-4
- Bouffard-Bouchard, T. (1990). Influence of self-efficacy on performance in a cognitive task. *Journal of Social Psychology*, 130, 353-363.
- Bourdieu, P. (1977). *Outline of theory and practice*. London, England: Cambridge University Press.
- Brown, H. (2000). *Principles of language learning and teaching* (4th ed.). White Plains, NY: Addison Wesley Longman.
- Bryman, A. (2007). Barriers to integrating quantitative and qualitative research. *Journal of Mixed Methods Research* 1(1), 8-22.
- Bryman, A. (2008). *Social research methods* (3rd ed.). Oxford, England: Oxford University Press.
- Camillo, M., & Pool, S. (1999). Improving writing proficiency through self-efficacy training. Poster Session presented at the *Annual Meeting of the American Educational Research Association*, Montreal. ERIC Documentation Service Access Number ED 432774. Retrieved from <http://www.eric.ed.gov/PDFS/ED432774.pdf>

- Canale, M., & Swain, M. (1980). Theoretical bases of communicative approaches to second language teaching and testing. *Applied Linguistics*, 1, 1-47.
- Caprara, G., Fida, R., Vecchione, M., Del Bove, G., Vecchio, G. B., & Bandura, A. (2008). Longitudinal analysis of the role of perceived self-efficacy for self-regulated learning in academic continuance and achievement. *Journal of Educational Psychology*, 100(3), 525-534.
- Caracelli, V., & Greene, J. (1993). Data analysis strategies for mixed methods evaluation design. *Educational Evaluation and Policy Analysis*, 15(2), 195-207.
- Carson, J. (2001). A task analysis of reading and writing in academic contexts. In D. Belcher, & D. Hirvela (Eds.), *Linking literacies: Perspectives on L2 reading-writing connections*. Michigan: MI Michigan University Press.
- Carson, J., Chase, N., & Gibson, S. (1993). *Academic demands of undergraduate curriculum: What students need*. Atlanta, GA: The Center for the Study of Adult Literacy; Georgia State University.
- Cochran, W. (1954). Some methods for strengthening the common chi-square test. *Biometrics*, 10, 417-451.
- Cohen, L., Manion, L., & Morrison, K. (2007). *Research methods in education* (6th ed.). Oxford, England: Routledge.
- Collins, J. (1982). Self-efficacy and ability in achievement behavior. *American Educational Research Association*. New York, NY.
- Corson, D. (1985). *The lexical bar*. Oxford, England: Pergamon Press.
- Corson, D. (1995). *Using English words*. Dordrecht, The Netherlands: Kluwer Academic Press.
- Corson, D. (1997). The learning and use of academic English words. *Language Learning*, 47(4), 671-718.
- Coxhead, A. (1998). *An academic word list*. Occasional Paper Number 18, LALS, Victoria University of Wellington, New Zealand.
- Coxhead, A. (2000). A new Academic Word List. *TESOL Quarterly*, 34(2), 213-238.
- Coxhead, A., & Nation, I. (2001). The specialised vocabulary of English for academic purposes. In J. Flowerdew, & M. Peacock (Eds.), *Research perspectives on English for academic purposes*. Cambridge, England: Cambridge University Press.
- Cram, F. (1997). Developing partnerships in research: Pakeha researcher and Maori research. *Sites* 35(Spring), 44-63.

- Creswell, J. W. (1999). Mixed-method research: Introduction and application. In G. Cizek (Ed.), *Handbook of educational policy* (pp. 455-472). San Diego, CA: Academic Press.
- Creswell, J. W. (2003). *Research Design: Qualitative, quantitative and mixed methods approaches* (2nd ed.). Thousand Oaks, CA: Sage.
- Creswell, J. W. (2005). *Educational research: Planning, conducting and evaluating quantitative and qualitative research* (2nd ed.). Upper Saddle River, NJ: Pearson Education.
- Creswell, J., & Plano Clark, V. L. (2007). *Designing and conducting mixed methods research*. Thousand Oaks, CA: Sage.
- Creswell, J. W., Plano Clark, V. L., Gutmann, M., & Hanson, W. (2003). Advanced mixed methods research designs. In A. Tashakkori, & C. Teddlie (Eds.), *Handbook of mixed methods in social and behavioral research* (pp. 209-240). Thousand Oaks, CA: Sage.
- Cummins, J. (1979). Cognitive/academic language proficiency, linguistic interdependence, the optimal age question and some other matters. In *Working Papers in Bi-lingualism* . No 19 (pp.197-205) Institute for Studies in Education. Ontario, Canada: Institute for Studies in Education
- Cummins, J. (1984a). *Bilingualism and special education: Issues in assessment and pedagogy*. Clevedon, England: Multilingual Matters.
- Cummins, J. (1984b). Wanted: A theoretical framework for relating language proficiency to academic achievement among bilingual students. In C. Riviera (Ed.), *Language proficiency and academic achievement* (pp. 2-19). Clevedon, England: Multilingual Matters.
- Cummins, J. (2000a). *Language, power and pedagogy: Bilingual children in the cross-fire*. Clevedon, England: Multilingual Matters.
- Cummins, J. (2000b). Putting language deficiency in its place: Responding to critiques of the conversational / academic language distinction. In J. Cenoz, & U. Jessner (Eds.), *English in Europe: The acquisition of a third language*. Clevedon, England: Multilingual Matters. Available at <http://iteachilearn.org/cummins/converacademlangdisti.html>
- Cummins, J. (2008). BICS and CALP: Empirical and theoretical status of the distinction. In B. Street & N. Hornberger (Eds.), *Encyclopedia of Language and Education, Vol 2: Literacy* (2nd ed.). New York, NY: Springer.
- Davidson-Toumu'a, M. R. (2005). *Tertiary academic reading experience*. (Unpublished master's thesis). Victoria University Wellington, Wellington, New Zealand.
- De Vaus, D. (2005). *Research design in social research* (5th ed.). London, England: Sage.
- Denzin, N. (1978). *The research act: A theoretical introduction to sociological methods*. New York, NY: Praeger.

- Denzin, N., & Lincoln, Y. (Eds.).(1994). *Handbook of qualitative research*. Thousand Oaks, CA: Sage.
- Denzin, N., & Lincoln, Y. (Eds.).(2005). *Sage handbook of qualitative research* (3rd ed.).Thousand Oakes, CA: Sage.
- Dörnyei, Z. (2001). *Teaching and researching motivation*. Harlow, England: Pearson Education.
- Durie, M. (1996). *Matauranga Maori: Iwi and the crown. A discussion paper*. Palmerston North, New Zealand: Massey University
- Edelsky, C., Hudelson, S., Altwerger, B., Flores, B., Barkin, F. and Jilbert, K. (1983). Semilingualism and language deficit. *Applied Linguistics*, 4(1), 1-22.
- Eldridge, J. (2008). No, there isn't an academic vocabulary, but ... *TESOL Quarterly*, 42(1), 109-114.
- Elliott, A., & Woodward, W. (2007). *Statistical analysis quick reference guidebook*. Thousand Oaks, CA: Sage.
- Fa'afoi, A., Parkhill, F., & Fletcher, J. (2006). Strengthening Pasifika and Palagi research collaboration in the Aotearoa research context (pp. 99-118). In C. Mutch (Ed.), *Challenging the notion of other. Reframing research in the Aotearoa New Zealand context*. Wellington, NZ: NZCER Press.
- Fenollar, P., Roman, S., & Cuestas, P. (2007). University students' academic performance: An integrative conceptual framework and empirical analysis. *British Journal of Educational Psychology*, 77(4), 873-892. doi:10.1348/000709907X189118
- Forster, M. (2011). Te hoe nuku roa: A journey towards Maori centred research. *Ethnobotany Research and Applications*, 47-53. [http://lib-ojs3.lib.sfu.ca:8114 /index.php/era/article /viewFile/28/17](http://lib-ojs3.lib.sfu.ca:8114/index.php/era/article/viewFile/28/17)
- Fraenkel, J., & Wallen, N. (2006). *How to design and evaluate research in education* (6th ed.). New York, NY: McGraw-Hill.
- Franken, M., & McComish, J. (2003). *Improving English language outcomes for students receiving ESOL services in New Zealand schools, with particular focus on new migrants*. Wellington, New Zealand: Ministry of Education.
- Gee, J. (2000). The new literacy studies: From the 'socially situated' to the social. In D. Barton, M. Hamilton, & R. Ivanic (Eds.), *Situated literacies. Reading and writing in context*. London, England: Routledge.
- Gee, J. (n.d). *The New Literacy Studies and the "Social Turn"*. Retrieved from <http://www.schools.ash.org.au/litweb/page300.html>

- Gore, P. J. (2006). Academic self-efficacy as a predictor of college outcomes: Two incremental validity studies. *Journal of Career Assessment*, 14, 92-115, DOI: 10.1177/ 1069072705281367.
- Goulden, R., Nation, I., & Read, J. (1990). How large can a receptive vocabulary be? *Applied Linguistics*, 11, 341-363.
- Grabe, W., & Kaplan, R. (1996). *Theory and practice of writing*. Harlow, England: Addison Wesley Longman.
- Greene, J., Caracelli, V., & Graham, W. (1989). Towards a conceptual framework for mixed-methods evaluation design. *Educational Evaluation and Policy Analysis*, 11,(3), 255-274.
- Griffin, B. (2005). *Cronbach's alpha*. Retrieved from http://www.griffin.com/gsu/courses/edur9131/content/cronbach/cronbachs_alpha_spss.htm
- Hakuta, K., & Beatty, A. (Eds.). (2000). *Testing English-language learners in U.S. schools: Report and workshop summary*. Washington, DC: National Academy Press.
- Halliday, M., & Martin, J. (Eds.). (1981). *Readings in systemic linguistics*. London, England: Batsford Academic and Educational.
- Hamilton, M., Barton, D., & Ivanic, R. (Eds.). (1994). *Worlds of literacy*. Clevedon, England: Multilingual Matters.
- Hatch, E., & Farhady, H. (1982). *Research design and statistics for applied linguistics*. Rowley, MA: Newbury House.
- Hatch, E., & Lazaraton, A. (1991). *The research manual*. New York, NY: Newbury House.
- Helu-Thaman, K. (1995). *Different eyes: Indigenous educational ideas and their advance to modern education: The case of Tonga*. Paper presented at the DICE International Conference. London, England: Institute of London.
- Hoover, K. G. (2000). The relation of locus of control and self-efficacy to academic achievement of college freshmen. *Dissertation Abstracts International, Section A: Humanities & Social Science*, 16(5-A), 1761.
- Horn, H., & Hofer, S. (1992). Major abilities and development in the adult period. In R. Sternberg, & C. Berg (Eds.), *Intellectual development* (pp. 44-49). New York, NY: Cambridge University Press.
- Hudson, M. (2009). Measuring maturity. In R. Beard, D. Myhill, J. Riley, & M. Nystrand (Eds.) *The Sage handbook of writing development* (pp. 349-362). London, England: Sage
- Hyland, K. (2000). *Disciplinary discourse: Social interactions in academic writing*. Harlow, England: Pearson Education.
- Hyland, K. (2002). *Teaching and researching writing*. Harlow, England: Pearson Education.

- Hyland, K., & Tse, P. (2007). Is there an 'academic vocabulary'? *TESOL Quarterly*, 41(2), 235-254.
- Irwin, K. (1994). Maori research methods and practices. *Sites*, 28(Autumn), 25-43.
- James, M. (1991). *Bridging programmes and learning assistance in Britain, North America and New Zealand*. A report to the Faculty of Arts, [named] Institute of Technology, [named city], New Zealand: unpublished.
- Jin, L., & Cortazzi, M. (2002). English language teaching in China: A bridge to the future. *Asia Pacific Journal of Education*, 22(2), 53-64.
- Johns, A. (1997). *Text, role and context*. Cambridge, England: Cambridge University Press.
- Johnson, R., & Onwuegbuzie, A. (2004). Mixed methods research: A research paradigm whose time has come. *Educational Researcher*, 33(7), 14-27.
- Johnson, R., Onwuegbuzie, A., & Turner, L. (2007). Towards a definition of mixed methods research. *Journal of Mixed Methods Research*, 1(2), 112-133.
- Jones, E. (2008). Predicting performance in first-semester college basic writers: Revisiting the role of self-beliefs. *Contemporary Educational Psychology*, 33(2), 209-238.
doi:10.1016/j.cedpsych/2006.11.001
- Jones, J. (2005). Learning to write in the disciplines: The application of systemic functional linguistic theory to the teaching and research of student writing. In L. Ravelli, & R.A Ellis (Eds.), *Analysing academic writing: Contextualized frameworks* (pp. 254-274). London, England: Continuum International.
- Kearns, R., & Dyck, I. (2005). Culturally safe research. In D. Wepa (Ed.), *Cultural safety in Aotearoa New Zealand* (pp. 79-88). Auckland, New Zealand: Pearson Education.
- Kuehn, P. (1996). *Assessment of academic literacy skills: Preparing minority and LEP (Limited English Proficient) students for postsecondary education*. Fresno, CA: Department of Educational Research: California State University.
- Lane, J., Lane, A., & Kyprianou, A. (2004). Self-efficacy, self-esteem and their impact on academic performance. *Social Behaviour & Personality: An International Journal*, 32(3), 247-256.
- Lankshear, C., & Knobel, M. (2006). *New Literacies: Everyday practices and classroom learning* (2nd ed.). New York, NY: Open University Press.
- Loewen, S., & Ellis, R. (2004). The relationship between English vocabulary knowledge and the academic success of second language university students. *New Zealand Journal of Applied Linguistics*, 10(1), 1-29.

- MacSwan, J., & Rolstad, K. (2003). Linguistic Diversity, Schooling, and Social Class: Rethinking Our Conception of Language Proficiency in Language Minority Education. In C. Paulston, & G. Tucker (Eds.), *Sociolinguistics : The essential readings* (pp. 329-341). Maldon, MA: Blackwell.
- Marsiske, M., & Smith, J. (1998). Development of competence: Toward a taxonomy. In T. Husen, & T. Postlethwaite (Eds.), *International encyclopedia of education*. Oxford: Pergamon Press.
- Martin-Jones, M., & Romaine, S. (1986). Semi-lingualism: A half-baked theory of communicative competence. *Applied Linguistics*, 7(1), 26-38.
- Mertens, D. M. (2005). *Research and evaluation in educational psychology* (2nd ed.). Thousand Oaks CA: Sage.
- Ministry of Education. (1993). *Education for the 21st century: A discussion document*. Wellington, New Zealand: Learning Media.
- Ministry of Education. (2001). *More than words: A strategy for adult literacy*. Wellington, New Zealand: Tertiary Education Policy.
- Ministry of Education. (2002). *Tertiary education strategy 2002-2007*. Wellington, New Zealand: Ministry of Education.
- Ministry of Education. (2003). *The adult ESOL strategy*. Wellington, New Zealand: Ministry of Education.
- Ministry of Education. (2005). Learning for living: te oko mo te ora. Issue 4. available from <http://www.minedu.govt.nz/~media/MinEdu/Files/EducationSectors/TertiaryEducation/LearningForLivingNewsletterIssue4.pdf>
- Ministry of Education. (2006). *Tertiary education strategy 2007-12*. Retrieved from <http://www.minedu.govt.nz/~media/MinEdu/Files/EducationSectors/TertiaryEducation/TertiaryEducationStrategy.pdf>
- Ministry of Education. (2007). The adult literacy and life skills (ALL) survey: Headline results and background. Wellington, New Zealand: Ministry of Education Fact Sheet
- Ministry of Education. (2010a). Ministry of Education: Tertiary Education. Retrieved from <http://www.minedu.govt.nz/NZEducation/EducationPolicies/TertiaryEducation/AboutTertiaryEducation.aspx>
- Ministry of Education.(2010b). *Education Statistics of New Zealand*. Retrieved from <http://www.educationcounts.govt.nz/publications/ece/2507/80221>
- Ministry of Education. (2011). *Participation rates of domestic students by ethnic group, age group, gender and qualification level 2010*. Retrieved from http://www.educationcounts.govt.nz/statistics/tertiary_education/participation

- Ministry of Education. (2011). *Tertiary education statistics. Participation rates. Provider-based-equivalent-full-time-students-EFTS*. Retrieved from:
http://www.educationcounts.govt.nz/statistics/tertiary_education/participation
- Mokhtari, K., & Reichard, C. (2004). Investigating the strategic reading process of first and second language readers in two different cultural contexts. *System* 32, 379-394.
- Mone, M., Baker, D., & Jefferies, F. (1995). Predictive validity and time dependency of self-efficacy, self-esteem, personal goals, and academic performance. *Educational and Psychological Measurement*, 55(5), 716 - 727, DOI: 10.1177/0013164495055005002.
- Morris, L., & Cobb, T. (2004). Vocabulary profiles as predictors of the academic performance of Teaching English as a Second Language trainees. *System* 32, 75-87.
- Morse, J. M. (1991). Approaches to qualitative-quantitative methodological triangulation. *Nursing Research*, 40, 120-123.
- Morse, J.M. (1994). Designing funded qualitative research. In N. Denzin, & Y. Lincoln (Eds.), *Handbook of qualitative research*.(pp. 220-231) Thousand Oaks, CA: Sage.
- Morse, J.M. (2003). Principles of mixed methods and multimethod research design. In A. Tashakkori, & C. Teddlie (Eds.), *Handbook of mixed methods in social and behavioral research* (pp. 189-208). Thousand Oaks, CA: Sage.
- Multon, K., Brown, S., & Lent, R. (1991). Relation of self-efficacy beliefs to academic outcomes: A meta-analytic investigation. *Journal of Counselling Psychology*, 18, 30-38.
- Mutch, C. (2005). *Doing educational research: A practitioner's guide to getting started*. Wellington, New Zealand: NZCER Press.
- Mutch, C. (2006). *Challenging the notion of other. Reframing research in the Aotearoa New Zealand context*. Wellington, New Zealand: NZCER Press.
- Nation, I. S. P. (1983). Testing and Teaching Vocabulary. *Guidelines*, 5(1), 12-25.
- Nation, I. S. P. (1984). *Vocabulary Lists*. English Language Institute Occasional Paper Number 17. Wellington, New Zealand: Victoria University of Wellington.
- Nation, I. S. P. (1990). *Teaching and learning vocabulary*. New York, NY: Heinle and Heinle.
- Nation, I. S. P. (2001). *Learning vocabulary in another language*. Cambridge, England: Cambridge University Press.
- Nation, I. S. P (2008). *Measures of testing vocabulary*. Final Keynote Address presented at CLESOL Conference, Auckland, New Zealand. October 4, 2008

- Nation, I. S. P. (2008). Vocabulary Size Test. Retrieved October 5, 2008, from <http://www.vuw.ac.nz/lals/staff/paul-nation/nation.aspx>
- National Centre of Literacy and Numeracy for Adults. (2009). *Assessment tool background and overview*. Retrieved from <http://literacyandnumeracyforadults.com/Assessment-Tool-Support/Assessment-Tool-Quick-Links/Signing-up-for-the-Assessment-Tool-application-criteria-and-information/Assessment-Tool-Background-and-Overview>
- New Zealand Council for Educational Research. (2006). *Assessment for foundation learning. The importance of purposeful assessment in adult literacy, numeracy and language courses*. Wellington, New Zealand: Ministry of Education, Tertiary Education Learning Outcomes.
- New Zealand Council for Educational Research. (2009). *LaNT Stage 1 Reading: Number of test-takers, items correct and items attempted, by form*. Wellington, New Zealand: unpublished.
- New Zealand Qualifications Authority. (2011). NZQF levels. Retrieved from <http://www.nzqa.govt.nz/studying-in-new-zealand/nzqf/nzqf-levels/>
- New Zealand Qualifications Authority. (n.d). *Qualifications and Standards*. Retrieved 10 October 2010 from <http://www.nzqa.govt.nz/qualifications-standards/>
- New Zealand Qualifications Authority. (n.d). *Studying in New Zealand*. Retrieved 9 September 2011 from <http://www.nzqa.govt.nz/studying-in-new-zealand/nzqf/>
- Newman, M. (2002). *The designs of academic literacy*. Westport, CT: Greenwood Group.
- Oller, J. (1979). *Language tests at school: A pragmatic approach*. London, England: Longman.
- Olsen, W. (2004). Triangulation in social research: Qualitative and quantitative methods really can be mixed. In M. Holborn, *Developments in sociology*. Ormskirk, England: Causeway Press.
- Oppenheim, A. (1992). *Questionnaire design, interviewing and attitude measurement*. London, England: Pinter.
- Organisation for Economic Co-operation and Development. (2003). *First Results of Adult Literacy and Lifeskills Survey (ALL)*. Retrieved from http://www.oecd.org/LongAbstract/0,3425,en_2649_39263238_34867439_1_1_1_1,00.html
- Organisation for Economic Co-operation and Development. (2005). *Learning a living: First results of the adult literacy and life skills survey*. Ottawa, Canada: Ministry of Industry, Canada and Organisation for Economic Cooperation and Development (OECD).
- Organisation for Economic Co-operation and Development & Statistics Canada. (2000). *Literacy in the information age: Final report of the international Adult literacy survey*. Paris and Ottawa: OECD.

- Osborne, M. (2003). University continuing education in the United Kingdom. In M. Osborne & E. Thomas (Eds.), *Lifelong learning in a changing continent: Continuing education in the universities of Europe*, pp 463-485. Leicester, United Kingdom: National Institute of Adult Continuing Education.
- Osborne, M. (2004). Adults in British Higher Education. In R. Mark, M. Pouget & E. Thomas (Eds.), *Adults in higher education: Learning from experience in the new Europe*, pp 397-423. Oxford, United Kingdom: Peter Lang
- Osborne, M., & Sankey, K. (2009). Non-vocational adult education and its professionals in the United Kingdom. *European Journal of Education*, 44(2), 271-289.
DOI 10.1111/j.1465-3435.2009.01382.x
- Pacific Education Research Team. (2002). *Pasifika education research toolkit*. Wellington, New Zealand: Ministry of Education.
- Pajares, F. (1997). Current directions in self-efficacy research. *Advances in Motivation and Achievement*, 10, 1-49.
- Pajares, F., & Urdan, T. (Eds.). (2002). *Academic motivation of adolescents*. Greenwich, CT: Information Age.
- Pajares, F., & Urdan, T. (Eds.). (2006). *Self-efficacy beliefs of adolescents*. Greenwich, CT: Information Age.
- Perry, J., DeWine, D., Duffy, R., & Vance, K. (2007). The academic self-efficacy of urban youth: A mixed-methods study of a school-to-work program. *Journal of Career Development*, 34(2), 103-126.
- Pires, A.L.(2009). Higher education and adult motivation towards lifelong learning. *European Journal of Vocational Training*, 46(1), 129-150.
- Pogson, P., & Tennant, M. (1999). Understanding adult learners. In G. Foley (Ed.), *Understanding adult education and training* (2nd ed.), (pp. 24-34). St Leonards, New South Wales, Australia: Allen and Unwin.
- Pont, B. (2004). Improving the access to and participation in adult learning in OECD countries. *European Journal of Education*, 39 (1), 31-45.
- Read, J.A (1988). Measuring the vocabulary knowledge of second language learners. *RELC Journal*, 19, 12-25.
- Read, J.A (2000). *Assessing vocabulary*. Cambridge, England: Cambridge University Press.
- Saville-Troike, M. (1984). What really matters in second language learning for academic achievement. *TESOL Quarterly*, 18(2), 199-219.

- Schaie, K. (1994). The course of adult intellectual development. *American Psychologist*, 49(4), 304-313.
- Schmitt, N., Schmitt, D., & Clapham, C. (2001). Developing and exploring the behaviour of two new versions of the Vocabulary Levels Test. *Language Testing*, 18(1), 55-88.
- Schunk. (1981). Modelling and attributional effects on children's achievement. *Journal of Educational Psychology*, 73, 95-105.
- Schunk, D. (1989). Self-efficacy and achievement behaviours. *Educational Psychology Review*, 1(3), 173-208, DOI 10.1007/BF01320134.
- Schunk, D. (1991). Self-efficacy and academic motivation. *Educational Psychologist*, 26, 207-231.
- Schunk, D. (2008). Metacognition, self-regulation and self-regulated learning: Research recommendations. *Educational Psychology Review*, 20(4), 463-467.
- Schunk, D., & Meece, J. (2006). Self-efficacy development in adolescents. In F. Pajares, & T. Urdan (Eds.), *Self-efficacy beliefs of adolescents* (pp. 71-96). Greenwich, CT: Information Age.
- Schunk, D., & Millar, S. (2002). Self-efficacy and adolescents' motivation. In F. Pajares, & T. Urdan (Eds.), *Academic motivation of adolescents* (pp. 29-52). Greenwich, CT: Information Age.
- Smith, G. (1990). *The issue of research and Maori*. Auckland, New Zealand: Reprinted 1992, Research Unit for Maori Education, University of Auckland.
- Smith, J., & Marsiske, M. (1997). Abilities and competencies in adulthood: Lifespan perspective on workplace skills. In A. Tuijnman, I. Kirsh, & D. Wagner (Eds.), *Adult basic skills: Innovations in measurement and policy analysis* (pp. 73-114). Cresskill, NJ: Hampton Press.
- Spack, R. (1988). Initiating ESL students into the academic discourse community: How far should we go? *TESOL Quarterly*, 22(1), 29-52.
- Staples, D., Hulland, J., & Higgins, C. (1998). A self-efficacy theory explanation for the management of remote workers in virtual organizations. *Journal of Computer-Mediated Communication*, 3(4), Retrieved from <http://www.ascusc.org/jcmc/vol3/issue4/staples.html>.
- Statistics New Zealand. (2011). *About people: ethnic group*. Retrieved from <http://www.stats.govt.nz/Census/2006CensusHomePage/classification-counts-tables/about-people/ethnic-group.aspx>
- Sticht, T. (2001). The intern adult literacy survey: How well does it represent literacy abilities of adults? *The Canadian Journal for the Study of Adult Education*, 15, 19-36.

- Stokes, E. (1985). *Maori research and development*. A discussion paper prepared for the Social Science Committee of the National Research Advisory Council. Also in *The issue of research and Maori*. Monograph No 9, Research Unit for Maori Education, 1992. Auckland, New Zealand: University of Auckland.
- Street, B. (1984). *Literacy in theory and practice*. Cambridge, England: Cambridge University Press.
- Swales, J. (1990). *Genre analysis: English in academic and research settings*. Cambridge England: Cambridge University Press.
- Tashakkori, A., & Creswell, J. W. (2007). The new era of mixed methods. *Journal of Mixed Methods Research*, 1(1), 3-7.
- Tashakkori, A., & Teddlie, C. (1998). *Mixed methodology: Combining qualitative and quantitative approaches*. Thousand Oaks, CA: Sage.
- Tashakkori, A., & Teddlie, C. (2003). *Handbook of mixed methods in social and behavioral research*. Thousand Oaks, CA: Sage.
- Tertiary Education Commission. (2004). *The Tertiary education strategy 2002-2007*. Retrieved from http://www.educationcounts.govt.nz/publications/series/tes/tertiary_education_strategy_2002_-_2007_monitoring_report_2004
- Tertiary Education Commission. (2008a). *Foundation learning progressions*. Wellington, New Zealand: Crown.
- Tertiary Education Commission. (2008b). *Learning progressions for adult literacy*. Wellington, New Zealand: The Crown.
- Tertiary Education Commission. (2008c). *Learning progressions for adult literacy and numeracy: Background information*. Wellington, New Zealand: The Crown.
- Tertiary Education Commission. (2008d). *Teaching adults to write to communicate: Using the learning progressions*. Wellington, New Zealand: The Crown.
- Tertiary Education Commission. (2008e). *Teaching adults to read with understanding*. Wellington, New Zealand: The Crown.
- Tertiary Education Commission. (2008f). *Competencies and a continuum model*. Retrieved from <http://literacyandnumeracyforadults.com/The-Learning-Progressions/Background-Information/The-theoretical-basis-for-the-learning-progressions/Competencies-and-a-continuum-model>
- Tertiary Education Commission. (2009). *Adult literacy and numeracy assessment tool: Reading. (1A-1G)*. Unpublished trial material developed by NZCER and ACER.

- Tertiary Education Commission. (2009). *Assessment tool*. Retrieved from <http://www.literacyandnumeracyforadults.ac.nz/learner-assessment-report/>
- Tertiary Education Commission. (2010). *Assessment-for-learning 2/Literacy-and-numeracy-for-adults-assessment-tool/Background*. Retrieved from: <http://www.literacyandnumeracyforadults.ac.nz/>
- Tertiary Education Commission. (2011). Learning progressions. Retrieved from <http://literacyandnumeracyforadults.com/The-Learning-Progressions>
- Tuhiwai-Smith, L. (1996). *Nga aho o te kakahu matauranga: The multiple layers of struggle by Maori in education*. (Unpublished doctoral thesis). University of Auckland, New Zealand.
- United Nations. (2007). *The Universal declaration of human rights*. Retrieved from: <http://www.un.org/en/documents/udhr/index.shtml>
- United Nations Educational, Scientific and Cultural Organization. (2006). *International Standard Classification of Education ISCED 1997*. Retrieved from Institute for Statistics: <http://www.uis.unesco.org/Library/Documents/isced97-en.pdf>
- United Nations Educational, Scientific and Cultural Organization. (2011). *International Standard Classification of Education ISCED*. Retrieved and download available from Institute for Statistics: <http://www.uis.unesco.org/Education/Pages/international-standard-classification-of-education.aspx>
- Universities New Zealand. (n.d). *Admission ad eundem statum at entrance level*. Retrieved from Te Pokai Tara: Universities New Zealand: <http://www.nzvcc.ac.nz/studying-in-nz/domestic/AEAdm>
- University of Auckland. (2010). *Guiding principles for conducting research with human participants*. Retrieved from <http://www.auckland.ac.nz/webdav/site/central/shared/about/research/human-ethics/documents/guiding-principles-for-research-2010.pdf>
- Urduan, T., & Pajares, F. (Eds.). (2001). *General issues in the education of adolescents*. Greenwich, CT: Information Age.
- Urduan, T., & Pajares, F. (Eds.). (2004). *Educating adolescents: Challenges and strategies*. Greenwich, Connecticut: Information Age.
- Ure, J. (1971). Lexical density and register differentiation. In G. Perren, & J. Trim (Eds), *Applications of linguistics: Selected papers of the Second International Congress of Applied Linguistics* (pp. 443-452). Cambridge, England: Cambridge University Press.
- Urquhart, S., & Weir, C. (1998). *Reading in a second language: Process, product and practice*. Harlow, England: Pearson Education.
- Utilities for Online Operating System. (n.d). *Readability test and improve*. Retrieved from http://www.online-utility.org/english/readability_test_and_improve.jsp

- Valeri-Gold, M. (1996). Assessing developmental learners' perceptions of reading and writing and the literacy demands in college. *Research and Teaching in Developmental Education*, 13(4), 200-216.
- Weigle, S. (2002). *Assessing writing*. Cambridge, England: Cambridge University Press.
- Wensvoort, M. (2011). 2010 Tertiary education enrolments. Wellington, New Zealand: Education Counts. Link to http://www.educationcounts.govt.nz/statistics/tertiary_education/participation : Provider-based-enrolments: ENR.2
- West, M. (1953). *A general service list of English words*. London, England: Longman.
- Wiley, T. (1996). *Literacy and language diversity in the United States*. McHenry, IL: Center for Applied Linguistics.
- Wilson, I. (2008). The perception of readiness and skills required for future academic study by adults in one bridging programme. *NZ Journal of Adult Learning*, 36(2), 89-109.
- Zeegers, P. (2004). Student learning in higher education: A path analysis of academic achievement in science. *Higher Education Research and Development*, 23(1), 35-56.
- Zhang, L., & Anual, S. (2008). The role of vocabulary in reading comprehension. *RELC*, 39(1), 51-76.
- Zimmerman, B. (1990). Self-regulating academic learning and achievement: The emergence of a social cognitive perspective. *Educational Psychology Review*, 2(2), 173-201, DOI: 10.1007/BF01322178.
- Zimmerman, B., & Bandura, A. (1994). Impact of self-regulatory influences on writing course attainment. *American Educational Research Journal*, 31(4), 845-862.
- Zimmerman, B., & Cleary, T. (2006). Adolescents' development of personal agency: The role of self-efficacy beliefs and self-regulatory skill. In F. Pajares, & T. Urdan (Eds.), *Self-efficacy beliefs of adolescents* (pp. 45-70). Greenwich, CT: Information Age.
- Zimmerman, B., Bandura, A., & Martinez-Pons, M. (1992). Self-motivation for academic attainment: The role of self-efficacy beliefs and personal goal setting. *American Educational Research Journal*, 29(3), 663-676.